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AMERICAN ORNITHOLOGY;

OR

THE NATURAL HISTORY

OF THE

BIRDS OF THE UNITED STATES.

ILLUSTRATED WITH PLATES

ENGRAVED AND COLOURED FROM ORIGINAL DRAWINGS TAKEN FROM NATURE.

BY ALEXANDER WILSON.

WITH A SKETCH OF THE AUTHOR'S LIFE,
BY GEORGE ORD, F. L. S. &c.

IN THREE VOLS.—VOL. III.

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Birds

EASTERN DISTRICT OF PENNSYLVANIA, to wit:

BE IT REMEMBERED, That on the 27th day of April, in the fifty-third year of the Independence of the United States of America, A. D. 1829, HARRISON HALL, of the said district, hath deposited in this office, the title of a book, the right whereof he claims as Proprietor, in the words following, to wit:

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AMERICAN ORNITHOLOGY.

ORDER IV. COLUMBÆ. COLUMBINE.

GENUS 48. COLUMBA. PIGEON.

SPECIES 1. *C. MIGRATORIA.*

PASSENGER PIGEON.

[Plate XLIV.—Fig. 1.]

CATESB. I, 23.—LINN. *Syst.* 285.—TURTON, 479.—*Arct. Zool. p.* 322, *No.* 187.—BRISSON, I, 100.—BUFF. II, 527.—PEALE'S *Museum, No.* 5084.*

THIS remarkable bird merits a distinguished place in the annals of our feathered tribes; a claim to which I shall endeavour to do justice; and though it would be impossible, in the bounds allotted to this account, to relate all I have seen and heard of this species, yet no circumstance shall be omitted with which I am acquainted, (however extraordinary some of these may appear) that may tend to illustrate its history.

The Wild Pigeon of the United States inhabits a wide and extensive region of North America, on this side of the Great Stony mountains, beyond which to the westward, I have not heard of their being seen. According to Mr. Hutchins, they abound in the country round Hudson's Bay, where they usually remain as late as December, feeding, when the ground is covered with snow, on the buds of juniper. They spread over the whole of Canada—were seen by captain Lewis and his party near the Great Falls of the Missouri, upwards of two thousand five hundred miles from its mouth, reckoning the meanderings

* *Columba migratoria*, LATH. *Ind. Orn. p.* 612, *No.* 70.

of the river—were also met with in the interior of Louisiana, by colonel Pike; and extend their range as far south as the gulf of Mexico; occasionally visiting or breeding in almost every quarter of the United States.

But the most remarkable characteristic of these birds is their associating together, both in their migrations, and also during the period of incubation, in such prodigious numbers as almost to surpass belief; and which has no parallel among any other of the feathered tribes, on the face of the earth, with which naturalists are acquainted.

These migrations appear to be undertaken rather in quest of food, than merely to avoid the cold of the climate; since we find them lingering in the northern regions around Hudson's Bay so late as December; and since their appearance is so casual and irregular; sometimes not visiting certain districts for several years in any considerable numbers, while at other times they are innumerable. I have witnessed these migrations in the Genessee country—often in Pennsylvania, and also in various parts of Virginia, with amazement; but all that I had then seen of them were mere straggling parties, when compared with the congregated millions which I have since beheld in our western forests, in the states of Ohio, Kentucky, and the Indiana territory. These fertile and extensive regions abound with the nutritious beech nut, which constitutes the chief food of the Wild Pigeon. In seasons when these nuts are abundant, corresponding multitudes of Pigeons may be confidently expected. It sometimes happens that having consumed the whole produce of the beech trees in an extensive district, they discover another at the distance perhaps of sixty or eighty miles, to which they regularly repair every morning, and return as regularly in the course of the day, or in the evening, to their place of general rendezvous, or as it is usually called the *roosting place.* These roosting places are always in the woods, and sometimes occupy a large extent of forest. When they have frequented one of these places for some time, the appearance it exhibits is surprising. The ground is covered to the depth of several inches with their dung;

all the tender grass and underwood destroyed; the surface strewed with large limbs of trees broken down by the weight of the birds clustering one above another; and the trees themselves, for thousands of acres, killed as completely as if girdled with an axe. The marks of this desolation remain for many years on the spot; and numerous places could be pointed out where for several years after, scarce a single vegetable made its appearance.

When these roosts are first discovered, the inhabitants from considerable distances visit them in the night, with guns, clubs, long poles, pots of sulphur, and various other engines of destruction. In a few hours they fill many sacks, and load their horses with them. By the Indians, a Pigeon roost, or breeding place, is considered an important source of national profit and dependence for that season; and all their active ingenuity is exercised on the occasion. The *breeding place* differs from the former in its greater extent. In the western countries above mentioned, these are generally in beech woods, and often extend in nearly a straight line across the country for a great way. Not far from Shelbyville in the state of Kentucky, about five years ago, there was one of these breeding places, which stretched through the woods in nearly a north and south direction, was several miles in breadth, and was said to be upwards of forty miles in extent! In this tract almost every tree was furnished with nests, wherever the branches could accommodate them. The Pigeons made their first appearance there about the tenth of April, and left it altogether, with their young, before the twenty-fifth of May.

As soon as the young were fully grown, and before they left the nests, numerous parties of the inhabitants, from all parts of the adjacent country, came with wagons, axes, beds, cooking utensils, many of them accompanied by the greater part of their families, and encamped for several days at this immense nursery. Several of them informed me, that the noise in the woods was so great as to terrify their horses, and that it was difficult for one person to hear another speak without bawling in his ear. The ground was strewed with broken limbs of trees, eggs, and

squab Pigeons, which had been precipitated from above, and on which herds of hogs were fattening. Hawks, Buzzards, and Eagles, were sailing about in great numbers, and seizing the squabs from their nests at pleasure; while from twenty feet upwards to the tops of the trees the view through the woods presented a perpetual tumult of crowding and fluttering multitudes of Pigeons, their wings roaring like thunder; mingled with the frequent crash of falling timber; for now the axe-men were at work cutting down those trees that seemed to be most crowded with nests; and contrived to fell them in such a manner, that in their descent they might bring down several others; by which means the falling of one large tree sometimes produce two hundred squabs, little inferior in size to the old ones, and almost one mass of fat. On some single trees upwards of one hundred nests were found, each containing *one* young only, a circumstance in the history of this bird not generally known to naturalists. It was dangerous to walk under these flying and fluttering millions, from the frequent fall of large branches, broken down by the weight of the multitudes above, and which in their descent often destroyed numbers of the birds themselves; while the clothes of those engaged in traversing the woods were completely covered with the excrements of the Pigeons.

These circumstances were related to me by many of the most respectable part of the community in that quarter; and were confirmed in part by what I myself witnessed. I passed for several miles through this same breeding place, where every tree was spotted with nests, the remains of those above described. In many instances, I counted upwards of ninety nests on a single tree; but the Pigeons had abandoned this place for another, sixty or eighty miles off, towards Green river, where they were said at that time to be equally numerous. From the great numbers that were constantly passing over head, to or from that quarter, I had no doubt of the truth of this statement. The mast had been chiefly consumed in Kentucky, and the Pigeons, every morning, a little before sun-rise, set out for the Indiana territory, the nearest part of which was about sixty miles distant. Many

of these returned before ten o'clock, and the great body generally appeared on their return a little after noon.

I had left the public road, to visit the remains of the breeding place near Shelbyville, and was traversing the woods with my gun, in my way to Frankfort, when about one o'clock the Pigeons, which I had observed flying the greater part of the morning northerly, began to return in such immense numbers as I never before had witnessed. Coming to an opening by the side of a creek called the Benson, where I had a more uninterrupted view, I was astonished at their appearance. They were flying with great steadiness and rapidity, at a height beyond gunshot, in several strata deep, and so close together, that could shot have reached them, one discharge could not have failed of bringing down several individuals. From right to left as far as the eye could reach, the breadth of this vast procession extended; seeming every where equally crowded. Curious to determine how long this appearance would continue, I took out my watch to note the time, and sat down to observe them. It was then half past one. I sat for more than an hour, but instead of a diminution of this prodigious procession, it seemed rather to increase both in numbers and rapidity; and, anxious to reach Frankfort before night, I rose and went on. About four o'clock in the afternoon I crossed the Kentucky river, at the town of Frankfort, at which time the living torrent above my head seemed as numerous and as extensive as ever. Long after this I observed them, in large bodies that continued to pass for six or eight minutes, and these again were followed by other detached bodies, all moving in the same south-east direction, till after six in the evening. The great breadth of front which this mighty multitude preserved, would seem to intimate a corresponding breadth of their breeding place, which by several gentlemen who had lately passed through part of it, was stated to me at *several* miles. It was said to be in Green county, and that the young began to fly about the middle of March. On the seventeenth of April, forty-nine miles beyond Danville, and not far from Green river, I crossed this same breeding place, where the nests for

more than three miles spotted every tree; the leaves not being yet out, I had a fair prospect of them, and was really astonished at their numbers. A few bodies of Pigeons lingered yet in different parts of the woods, the roaring of whose wings were heard in various quarters around me.

All accounts agree in stating, that each nest contains only one young.* This is so extremely fat, that the Indians, and many of the whites, are accustomed to melt down the fat for domestic purposes as a substitute for butter and lard. At the time they leave the nest they are nearly as heavy as the old ones; but become much leaner after they are turned out to shift for themselves.

It is universally asserted in the western countries, that the Pigeons, though they have only one young at a time, breed thrice, and sometimes four times, in the same season; the circumstances already mentioned render this highly probable. It is also worthy of observation, that this takes place during that period when acorns, beech nuts, &c. are scattered about in the greatest abundance, and mellowed by the frost. But they are not confined to these alone; buckwheat, hempseed, Indian corn, holly berries, hack berries, huckle berries, and many others furnish them with abundance at almost all seasons. The acorns of the live oak are also eagerly sought after by these birds, and rice has been frequently found in individuals killed many hundred miles to the northward of the nearest rice plantation. The vast quantity of mast which these multitudes consume, is a serious loss to the bears, pigs, squirrels and other dependents on the fruits of the forest. I have taken from the crop of a single Wild Pigeon, a good handful of the kernels of beech nuts, intermixed with acorns and chestnuts. To form a rough estimate of the daily consumption of one of these immense flocks, let us first attempt to calculate the numbers of that above mentioned, as seen in passing between Frankfort and the Indiana territory.

* It seems probable that our author was misinformed on this head, as it has been stated to us that the Passenger Pigeon, in common with all the other known species of the genus *Columba*, lays two eggs.

If we suppose this column to have been one mile in breadth (and I believe it to have been much more,) and that it moved at the rate of one mile in a minute; four hours, the time it continued passing, would make its whole length two hundred and forty miles. Again supposing that each square yard of this moving body comprehended three Pigeons, the square yards in the whole space, multiplied by three, would give two thousand two hundred and thirty millions, two hundred and seventy-two thousand pigeons! An almost inconceivable multitude, and yet probably far below the actual amount. Computing each of these to consume half a pint of mast daily, the whole quantity at this rate, would equal seventeen millions four hundred and twenty-four thousand bushels per day! Heaven has wisely and graciously given to these birds rapidity of flight, and a disposition to range over vast uncultivated tracts of the earth; otherwise they must have perished in the districts where they resided, or devoured up the whole productions of agriculture, as well as those of the forests.

A few observations on the mode of flight of these birds must not be omitted. The appearance of large detached bodies of them in the air, and the various evolutions they display, are strikingly picturesque and interesting. In descending the Ohio, by myself, in the month of February, I often rested on my oars to contemplate their aerial manœuvres. A column, eight or ten miles in length, would appear from Kentucky, high in air, steering across to Indiana. The leaders of this great body would sometimes gradually vary their course, until it formed a large bend of more than a mile in diameter, those behind tracing the exact route of their predecessors. This would continue sometimes long after both extremities were beyond the reach of sight, so that the whole, with its glittery undulations, marked a space on the face of the heavens resembling the windings of a vast and majestic river. When this bend became very great, the birds, as if sensible of the unnecessary circuitous course they were taking, suddenly changed their direction, so that what was in column before became an immense front, straightening all its

indentures, until it swept the heavens in one vast and infinitely extended line. Other lesser bodies also united with each other, as they happened to approach, with such ease and elegance of evolution, forming new figures, and varying these as they united or separated, that I was never tired of contemplating them. Sometimes a Hawk would make a sweep on a particular part of the column, from a great height, when almost as quick as lightning, that part shot downwards out of the common track, but soon rising again, continued advancing at the same height as before, this inflection was continued by those behind, who on arriving at this point, dived down almost perpendicularly, to a great depth, and rising followed the exact path of those that went before. As these vast bodies passed over the river near me, the surface of the water, which was before smooth as glass, appeared marked with innumerable dimples, occasioned by the dropping of their dung, resembling the commencement of a shower of large drops of rain or hail.

Happening to go ashore one charming afternoon, to purchase some milk at a house that stood near the river, and while talking with the people within doors, I was suddenly struck with astonishment at a loud rushing roar, succeeded by instant darkness, which, on the first moment, I took for a tornado about to overwhelm the house, and every thing around in destruction. The people observing my surprise, coolly said, "It is only the Pigeons;" and on running out I beheld a flock, thirty or forty yards in width, sweeping along very low, between the house and the mountain or height that formed the second bank of the river. These continued passing for more than a quarter of an hour, and at length varied their bearing so as to pass over the mountain, behind which they disappeared before the rear came up.

In the Atlantic states, though they never appear in such unparalleled multitudes, they are sometimes very numerous; and great havoc is then made amongst them with the gun, the clap-net, and various other implements of destruction. As soon as it is ascertained in a town that the Pigeons are flying numer-

ously in the neighbourhood, the gunners rise *en masse;* the clap-nets are spread out on suitable situations, commonly on an open height, in an old buckwheat field; four or five live Pigeons, with their eyelids sewed up, are fastened on a moveable stick —a small hut of branches is fitted up for the fowler at the distance of forty or fifty yards; by the pulling of a string, the stick on which the Pigeons rest is alternately elevated and depressed, which produces a fluttering of their wings similar to that of birds just alighting; this being perceived by the passing flocks, they descend with great rapidity, and finding corn, buckwheat, &c. strewed about, begin to feed, and are instantly, by the pulling of a cord, covered with the net. In this manner ten, twenty, and even thirty dozen, have been caught at one sweep. Meantime the air is darkened with large bodies of them moving in various directions; the woods also swarm with them in search of acorns; and the thundering of musquetry is perpetual on all sides from morning to night. Wagon loads of them are poured into market, where they sell from fifty to twenty-five and even twelve cents per dozen; and Pigeons become the order of the day at dinner, breakfast and supper, until the very name becomes sickening. When they have been kept alive, and fed for some time on corn and buckwheat, their flesh acquires great superiority; but in their common state they are dry and blackish, and far inferior to the full grown young ones, or squabs.

The nest of the Wild Pigeon is formed of a few dry slender twigs, carelessly put together, and with so little concavity, that the young one, when half grown can easily be seen from below. The eggs are pure white. Great numbers of Hawks, and sometimes the Bald Eagle himself, hover about those breeding places, and seize the old or the young from the nest amidst the rising multitudes, and with the most daring effrontery. The young, when beginning to fly, confine themselves to the under part of the tall woods where there is no brush, and where nuts and acorns are abundant, searching among the leaves for mast, and appear like a prodigious torrent rolling along through the woods, every one striving to be in the front. Vast numbers of them

are shot while in this situation. A person told me, that he once rode furiously into one of these rolling multitudes, and picked up thirteen Pigeons, which had been trampled to death by his horse's feet. In a few minutes they will beat the whole nuts from a tree with their wings; while all is a scramble, both above and below, for the same. They have the same cooing notes common to domestic Pigeons; but much less of their gesticulations. In some flocks you will find nothing but young ones, which are easily distinguishable by their motley dress. In others they will be mostly females; and again great multitudes of males, with few or no females. I cannot account for this in any other way than that during the time of incubation the males are exclusively engaged in procuring food, both for themselves and their mates; and the young being unable yet to undertake these extensive excursions, associate together accordingly. But even in winter I know of several species of birds who separate in this manner, particularly the Red-winged Starling, among whom thousands of old males may be found, with few or no young or females along with them.

Stragglers from these immense armies settle in almost every part of the country, particularly among the beech woods, and in the pine and hemlock woods of the eastern and northern parts of the continent. Mr. Pennant informs us, that they breed near Moose fort at Hudson's Bay, in N. lat. 51°, and I myself have seen the remains of a large breeding place as far south as the country of the Chactaws, in lat. 32°. In the former of these places they are said to remain until December; from which circumstance it is evident that they are not regular in their migrations, like many other species, but rove about, as scarcity of food urges them. Every spring, however, as well as fall, more or less of them are seen in the neighbourhood of Philadelphia; but it is only once in several years that they appear in such formidable bodies; and this commonly when the snows are heavy to the north, the winter here more than usually mild, and acorns, &c. abundant.

The Passenger Pigeon is sixteen inches long, and twenty-four

inches in extent; bill black; nostril covered by a high rounding protuberance; eye brilliant fiery orange; orbit, or space surrounding it, purplish flesh-coloured skin; head, upper part of the neck, and chin, a fine slate blue, lightest on the chin; throat, breast and sides, as far as the thighs, a reddish hazel; lower part of the neck and sides of the same resplendent changeable gold, green and purplish crimson, the latter most predominant; the ground colour slate; the plumage of this part is of a peculiar structure, ragged at the ends; belly and vent white; lower part of the breast fading into a pale vinaceous red; thighs the same, legs and feet lake, seamed with white; back, rump and tail-coverts, dark slate, spotted on the shoulders with a few scattered marks of black; the scapulars tinged with brown; greater coverts light slate; primaries and secondaries dull black, the former tipt and edged with brownish white; tail long, and greatly cuneiform, all the feathers tapering towards the point, the two middle ones plain deep black, the other five, on each side, hoary white, lightest near the tips, deepening into bluish near the bases, where each is crossed on the inner vane with a broad spot of black, and nearer the root with another of ferruginous; primaries edged with white; bastard wing black.

The female is about half an inch shorter, and an inch less in extent; breast cinereous brown; upper part of the neck inclining to ash; the spot of changeable gold green and carmine much less, and not so brilliant; tail-coverts brownish slate; naked orbits slate coloured; in all other respects like the male in colour, but less vivid, and more tinged with brown; the eye not so brilliant an orange. In both, the tail has only twelve feathers.

SPECIES 2. COLUMBA CAROLINENSIS.

CAROLINA PIGEON, OR TURTLE DOVE.

[Plate XLIII.—Fig. 1.]

Linn. *Syst.* 286.—Catesb. *Car.* 1, 24.—Buff. ii. 557. *Pl. Enl.* 175.—*La Tourterelle de la Caroline*, Brisson, i, 110.—Turton, 479.—*Arct. Zool.* ii, *No.* 188.*—Peale's *Museum*, *No.* 5088.

This is a favourite bird with all those who love to wander among our woods in spring, and listen to their varied harmony. They will there hear many a singular and sprightly performer; but none so mournful as this. The hopeless woe of settled sorrow, swelling the heart of female innocence itself, could not assume tones more sad, more tender and affecting. Its notes are four; the first is somewhat the highest, and preparatory, seeming to be uttered with an inspiration of the breath, as if the afflicted creature were just recovering its voice from the last convulsive sobs of distress; this is followed by three long, deep and mournful moanings, that no person of sensibility can listen to without sympathy. A pause of a few minutes ensues; and again the solemn voice of sorrow is renewed as before. This is generally heard in the deepest shaded parts of the woods, frequently about noon, and towards the evening.

There is, however, nothing of real distress in all this; quite the reverse. The bird who utters it wantons by the side of his beloved partner, or invites her by his call to some favourite retired and shady retreat. It is the voice of love, of faithful connubial affection, for which the whole family of Doves are so celebrated; and among them all none more deservingly so than the species now before us.

**Columba Carolinensis*, Lath. *Ind. Orn. p.* 613, *No.* 71. *C. Canadensis? Id. ib. No.* 72.

The Turtle Dove is a general inhabitant, in summer, of the United States, from Canada to Florida, and from the sea-coast to the Mississippi, and far to the westward. They are, however, partially migratory in the northern and middle states; and collect together in North and South Carolina, and their corresponding parallels, in great numbers, during the winter. On the second of February, in the neighbourhood of Newbern, North Carolina, I saw a flock of Turtle Doves of many hundreds; in other places, as I advanced farther south, particularly near the Savannah river, in Georgia, the woods were swarming with them, and the whistling of their wings were heard in every direction.

On their return to the north in March, and early in April, they disperse so generally over the country, that there are rarely more than three or four seen together, most frequently only two. Here they commonly fly in pairs, resort constantly to the public roads, to dust themselves, and procure gravel; are often seen in the farmer's yard, before the door, the stable, barn and other outhouses, in search of food, seeming little inferior in familiarity at such times to the domestic Pigeon. They often mix with the poultry, while they are fed in the morning, visit the yard and adjoining road many times a day, and the pump, creek, horse-trough and rills for water.

Their flight is quick, vigorous, and always accompanied by a peculiar whistling of the wings, by which they can easily be distinguished from the Wild Pigeon. They fly with great swiftness, alight on trees, fences, or on the ground indiscriminately; are exceedingly fond of buckwheat, hemp seed, and Indian corn; feed on the berries of the holly, the dogwood and poke, huckle berries, partridge berries, and the small acorns of the live oak, and shrub oak. They devour large quantities of gravel, and sometimes pay a visit to the kitchen garden for peas, for which they have a particular regard.

In this part of Pennsylvania they commence building about the beginning of May. The nest is very rudely constructed, generally in an evergreen—among the thick foliage of a vine—in an orchard, on the horizontal branches of an apple-tree, and in

some cases on the ground. It is composed of a handful of small twigs, laid with little art, on which are scattered dry fibrous roots of plants, and in this almost flat bed are deposited two eggs, of a snowy whiteness. The male and female unite in feeding the young, and they have rarely more than two broods in the same season.

The flesh of this bird is considered much superior to that of the Wild Pigeon; but its seeming confidence in man, the tenderness of its notes, and the innocency attached to its character, are with many its security and protection; with others, however, the tenderness of its *flesh*, and the sport of shooting, overcome all other considerations. About the commencement of frost, they begin to move off to the south; numbers, however, remain in Pennsylvania during the whole winter.

The Turtle Dove is twelve inches long, and seventeen inches in extent; bill black; eye of a glossy blackness, surrounded with a pale greenish blue skin; crown, upper part of the neck and wings a fine silky slate blue; back, scapulars and lesser wing-coverts ashy brown; tertials spotted with black: primaries edged and tipt with white; forehead, sides of the neck and breast, a pale brown vinous orange; under the ear feathers a spot or drop of deep black; immediately below which the plumage reflects the most vivid tints of green, gold and crimson, chin pale yellow ochre; belly and vent whitish; legs and feet coral red, seamed with white; the tail is long and cuneiform, consisting of fourteen feathers; the four exterior ones on each side are marked with black about an inch from the tips, and white thence to the extremity; the next has less of the white at the tip; these gradually lengthen to the four middle ones, which are wholly dark slate; all of them taper towards the points, the two middle ones most so.

The female is an inch shorter, and is otherwise only distinguished by the less brilliancy of her colour; she also wants the rich silky blue on the crown, and much of the splendor of the neck; the tail is also somewhat shorter, and the white with which it is marked less pure.

SPECIES 3. *COLUMBA PASSERINA.*

GROUND DOVE.

[Plate XLVI.—Fig. 2, *Male*—Fig. 3, *Female.*]

LINN. *Syst.* 285.—SLOAN. *Jam.* II. 305.—*Le Cocotzin, Fernandez,* 24.—BUFF. II, 559. *Pl. Enl.* 243.—*La petite Tourterelle,* BRISS. I, 113.—TURT. *Syst.* 478.—*Columba minuta, Ibid. p.* 479.*—*Arct. Zool. p.* 328, *No.* 191.—CATESB. I, 26.†

THIS is one of the least of the Pigeon tribe, whose timid and innocent appearance forms a very striking contrast to the ferocity of the Bird-killer of the same plate. Such as they are in nature, such I have endeavoured faithfully to represent them. I have been the more particular with this minute species, as no correct figure of it exists in any former work with which I am acquainted.

The Ground Dove is a native of North and South Carolina, Georgia, the new state of Louisiana, Florida, and the islands of the West Indies. In the latter it is frequently kept in cages; is esteemed excellent for the table, and honoured by the French planters with the name of Ortolan. They are numerous in the sea islands on the coast of Carolina and Georgia; fly in flocks or coveys of fifteen or twenty; seldom visit the woods, preferring open fields and plantations; are almost constantly on the ground, and when disturbed fly to a short distance and again alight. They have a frequent jetting motion with the tail; feed on rice, various seeds and berries, particularly those of the Tooth-ache tree,‡ under or near which, in the proper season, they are almost sure to be found. Of their nest or manner of breeding I am unable, at present, to give any account.

* Prince Musignano considers this synonyme is incorrect.

† *Columba Passerina*, LATH. *Ind. Orn. p.* 611, *No.* 67. *C. minuta, id. p.* 612, *No* 68.

‡ Xanthoxylum Clava Herculis.

These birds seem to be confined to the districts lying south of Virginia. They are plenty on the upper parts of Cape Fear river, and in the interior of Carolina and Georgia; but I have never met with them either in Maryland, Delaware, or Pennsylvania. They never congregate in such multitudes as the common Wild Pigeon; or even as the Carolina Pigeon or Turtle Dove; but, like the Partridge or Quail, frequent the open fields in small coveys. They are easily tamed; have a low tender cooing note, accompanied with the usual gesticulations of their tribe.

The Ground Dove is a bird of passage, retiring to the islands and to the more southerly parts of the continent on the approach of winter, and returning to its former haunts early in April. It is of a more slender and delicate form, and less able to bear the rigours of cold, than either of the other two species common in the United States, both of which are found in the northern regions of Canada, as well as in the genial climate of Florida.

The Dove, generally speaking, has long been considered as the favourite emblem of peace and innocence, probably from the respectful manner in which its name is mentioned in various parts of Scripture; its being selected from among all the birds by Noah to ascertain the state of the deluge, and returning to the ark, bearing the olive leaf as a messenger of peace and good tidings; the Holy Ghost, it is also said, was seen to descend *like a dove* from heaven, &c. &c. In addition to these, there is in the Dove an appearance of meekness and innocency very interesting, and well calculated to secure our partiality in its favour. These remarks are applicable to the whole genus; but are more particularly so to the species now before us, as being among the least, the most delicate and inoffensive, of the whole.

The Ground Dove is six inches and a quarter long; bill yellow, black at the point; nostril covered with a prominent membrane, as is usual with the genus; iris of the eye orange red; front, throat, breast and sides of the neck, pale vinaceous purple; the feathers strongly defined by semicircular outlines, those

on the throat centred with dusky blue; crown and hind-head a fine pale blue, intermixed with purple, the plumage like that on the throat strongly defined; back cinereous brown, the scapulars deeply tinged with pale purple, and marked with detached drops of glossy blue, reflecting tints of purple; belly pale vinaceous brown, becoming dark cinereous towards the vent, where the feathers are bordered with white; wing quills dusky outwardly and at the tips; lower sides, and whole interior vanes, a fine red chestnut, which shows itself a little below their coverts; tail rounded, consisting of twelve feathers, the two middle ones cinereous brown, the rest black, tipt and edged with white; legs and feet yellow.

The female has the back and tail-coverts of a mouse colour, with little or none of the vinaceous tint on the breast and throat, nor any of the light blue on the hind-head; the throat is speckled with dull white, pale clay colour, and dusky; sides of the neck the same, the plumage strongly defined; breast cinereous brown, slightly tinctured with purple; scapulars marked with large drops of a dark purplish blood colour, reflecting tints of blue; rest of the plumage nearly the same as that of the male.

GENUS 56. TETRAO.

SPECIES 1. *T. UMBELLUS.*

RUFFED GROUS.

[Plate XLIX.]

Arct. Zool. p. 301, *No.* 179.—*Ruffed Heath-cock, or Grous,* Edw. 248.—*La Gelinote huppée de Pensylvanie,* Briss. 1, 214.—*Pl. Enl.* 104.—Buff. 11, 281.—*Phil. Trans.* 62, 393.—Turt. *Syst.* 454.—Peale's *Museum, No.* 4702.

This is the *Partridge* of the eastern states, and the *Pheasant* of Pennsylvania, and the southern districts. It is represented in the plate of its full size; and was faithfully copied from a perfect and very beautiful specimen.

This elegant species is well known in almost every quarter of the United States, and appears to inhabit a very extensive range of country. It is common at Moose fort, on Hudson's bay, in lat. 51°; is frequent in the upper parts of Georgia; very abundant in Kentucky and the Indiana territory; and was found by captains Lewis and Clarke in crossing the great range of mountains that divide the waters of the Columbia and Missouri, more than three thousand miles, by their measurement, from the mouth of the latter. Its favourite places of resort are high mountains, covered with the balsam pine, hemlock, and such like evergreens. Unlike the Pinnated Grous, it always prefers the woods; is seldom or never found in open plains; but loves the pine-sheltered declivities of mountains, near streams of water. This great difference of disposition in two species, whose food seems to be nearly the same, is very extraordinary. In those open plains called the barrens of Kentucky, the Pinnated Grous was seen in great numbers, but none of the Ruffed; while in the high groves with which that singular tract of country is inter-

spersed, the latter, or Pheasant, was frequently met with; but not a single individual of the former.

The native haunts of the Pheasant being a cold, high, mountainous and woody country, it is natural to expect that as we descend thence to the sea shores, and the low, flat and warm climate of the southern states, these birds should become more rare, and such indeed is the case. In the lower parts of Carolina, Georgia and Florida, they are very seldom observed; but as we advance inland to the mountains, they again make their appearance. In the lower parts of New Jersey we indeed occasionally meet with them; but this is owing to the more northerly situation of the country; for even here they are far less numerous than among the mountains.

Dr. Turton, and several other English writers, have spoken of a Long-tailed Grous, said to inhabit the back parts of Virginia, which can be no other than the present species, there being, as far as I am acquainted, only these two, the Ruffed and Pinnated Grous, found native within the United States.

The manners of the Pheasant are solitary; they are seldom found in coveys of more than four or five together, and more usually in pairs or singly. They leave their sequestered haunts in the woods early in the morning, and seek the path or road, to pick up gravel, and glean among the droppings of the horses. In travelling among the mountains that bound the Susquehanna, I was always able to furnish myself with an abundant supply of these birds, every morning, without leaving the path. If the weather be foggy, or lowering, they are sure to be seen in such situations. They generally move along with great stateliness, their broad fan-like tail spread out in the manner exhibited in the drawing. The drumming, as it is usually called, of the Pheasant, is another singularity of this species. This is performed by the male alone. In walking through solitary woods frequented by these birds, a stranger is surprised by suddenly hearing a kind of thumping, very similar to that produced by striking two full-blown ox-bladders together, but much louder; the strokes at first are slow and distinct; but gradually increase

in rapidity till they run into each other, resembling the rumbling sound of very distant thunder, dying away gradually on the ear. After a few minutes, pause this is again repeated; and in a calm day may be heard nearly half a mile off. This drumming is most common in spring, and is the call of the cock to his favourite female. It is produced in the following manner. The bird, standing on an old prostrate log, generally in a retired and sheltered situation, lowers his wings, erects his expanded tail, contracts his throat, elevates the two tufts of feathers on the neck, and inflates his whole body, something in the manner of the turkey cock, strutting and wheeling about with great stateliness. After a few manœuvres of this kind, he begins to strike with his stiffened wings in short and quick strokes, which become more and more rapid until they run into each other as has been already described. This is most common in the morning and evening, though I have heard them drumming at all hours of the day. By means of this, the gunner is led to the place of his retreat; though to those unacquainted with the sound, there is great deception in the supposed distance, it generally appearing to be much nearer than it really is.

The Pheasant begins to pair in April, and builds its nest early in May. This is placed on the ground at the root of a bush, old log, or other sheltered and solitary situation, well surrounded with withered leaves. Unlike that of the Quail, it is open above, and is usually composed of dry leaves and grass. The eggs are from nine to fifteen in number, of a brownish white, without any spots, and nearly as large as those of a pullet. The young leave the nest as soon as hatched, and are directed by the cluck of the mother, very much in the manner of the common hen. On being surprised, she exhibits all the distress and affectionate manœuvres of the Quail, and of most other birds, to lead you away from the spot. I once started a hen Pheasant, with a single young one, seemingly only a few days old; there might have been more, but I observed only this one. The mother fluttered before me for a moment, but suddenly darting towards the young one, seized it in her bill, and flew off along the surface through the

woods, with great steadiness and rapidity, till she was beyond my sight, leaving me in great surprise at the incident. I made a very close and active search around the spot for the rest, but without success. Here was a striking instance of something more than what is termed blind instinct, in this remarkable deviation from her usual manœuvres, when she has a numerous brood. It would have been impossible for me to injure this affectionate mother, who had exhibited such an example of presence of mind, reason and sound judgment, as must have convinced the most bigotted advocates of mere *instinct.* To carry off a whole brood in this manner, at once, would have been impossible, and to attempt to save one at the expense of the rest would be unnatural. She therefore usually takes the only possible mode of saving them in that case, by decoying the person in pursuit of herself, by such a natural imitation of lameness as to impose on most people. But here, in the case of a single solitary young one, she instantly altered her plan, and adopted the most simple and effectual means for its preservation.

The Pheasant generally springs within a few yards, with a loud whirring noise, and flies with great vigour through the woods, beyond reach of view, before it alights. With a good dog however, they are easily found; and at some times exhibit a singular degree of infatuation, by looking down, from the branches where they sit, on the dog below, who, the more noise he keeps up, seems the more to confuse and stupify them, so that they may be shot down, one by one, till the whole are killed, without attempting to fly off. In such cases, those on the lower limbs must be taken first, for should the upper ones be first killed, in their fall they alarm those below, who immediately fly off. In deep snows they are usually taken in traps, commonly dead traps, supported by a figure 4 trigger. At this season, when suddenly alarmed, they frequently dive into the snow, particularly when it has newly fallen, and coming out at a considerable distance, again take wing. They are pretty hard to kill, and will often carry off a large load to the distance of two hundred yards, and drop down dead. Sometimes in the depth of winter they

approach the farm house, and lurk near the barn, or about the garden. They have also been often taken young and tamed, so as to associate with the fowls; and their eggs have frequently been hatched under the common hen; but these rarely survive until full grown. They are exceedingly fond of the seeds of grapes; occasionally eat ants, chestnuts, black berries, and various vegetables. Formerly they were numerous in the immediate vicinity of Philadelphia; but as the woods were cleared, and population increased, they retreated to the interior. At present there are very few to be found within several miles of the city, and those only singly, in the most solitary and retired woody recesses.

The Pheasant is in best order for the table in September and October. At this season they feed chiefly on whortle-berries, and the little red aromatic partridge-berries, the last of which gives their flesh a peculiar delicate flavour. With the former our mountains are literally covered from August to November; and these constitute at that season the greater part of their food. During the deep snows of winter, they have recourse to the buds of alder, and the tender buds of the laurel. I have frequently found their crops distended with a large handful of these latter alone; and it has been confidently asserted, that after having fed for some time on the laurel buds, their flesh becomes highly dangerous to eat of, partaking of the poisonous qualities of the plant. The same has been asserted of the flesh of the deer, when in severe weather, and deep snows, they subsist on the leaves and bark of the laurel. Though I have myself eat freely of the flesh of the Pheasant, after emptying it of large quantities of laurel buds, without experiencing any bad consequences, yet, from the respectability of those, some of them eminent physicians, who have particularized cases in which it has proved deleterious, and even fatal, I am inclined to believe that in certain cases where this kind of food has been long continued, and the birds allowed to remain undrawn for several days, until the contents of the crop and stomach have had time to diffuse themselves through the flesh, as is too often the case, it may be

unwholesome, and even dangerous. Great numbers of these birds are brought to our markets, at all times during fall and winter, some of which are brought from a distance of more than a hundred miles, and have been probably dead a week or two, unpicked and undrawn, before they are purchased for the table. Regulations prohibiting them from being brought to market, unless picked and drawn, would very probably be a sufficient security from all danger. At these inclement seasons, however, they are generally lean and dry, and indeed at all times their flesh is far inferior to that of the Quail, or of the Pinnated Grous. They are usually sold in Philadelphia market at from three quarters of a dollar to a dollar and a quarter a pair, and sometimes higher.

The Pheasant or Partridge of New England, is eighteen inches long, and twenty-three inches in extent; bill a horn colour, paler below; eye reddish hazel, immediately above which is a small spot of bare skin of a scarlet colour; crested head and neck variegated with black, red brown, white and pale brown; sides of the neck furnished with a tuft of large black feathers, twenty-nine or thirty in number, which it occasionally raises: this tuft covers a large space of the neck destitute of feathers; body above a bright rust colour, marked with oval spots of yellowish white, and sprinkled with black; wings plain olive brown, exteriorly edged with white, spotted with olive; the tail is rounding, extends five inches beyond the tips of the wings, is of a bright reddish brown beautifully marked with numerous waving transverse bars of black, is also crossed by a broad band of black within half an inch of the tip, which is bluish white, thickly sprinkled and specked with black; body below white, marked with large blotches of pale brown; the legs are covered half way to the feet with hairy down, of a brownish white colour; legs and feet pale ash; toes pectinated along the sides, the two exterior ones joined at the base as far as the first joint by a membrane; vent yellowish rust colour.

The female and young birds differ in having the ruff or tufts of feathers on the neck of a dark brown colour, as well as the bar of black on the tail inclining much to the same tint.

SPECIES 2. TETRAO CUPIDO.

PINNATED GROUS.

[Plate XXVII.—Fig. 1.]

Linn. *Syst.* i, *p.* 274, 5.—Lath. ii, *p.* 740.—*Arct. Zool.*—*La Gelinote hupée d'Amerique*, Briss. *Orn.* i, *p.* 212, 10.—*Urogalus minor, fuscus cervice, plumis alas imitantibus donata*, Catesb. *Car. App. pl.* 1.—*Tetrao lagogus, the Mountain cock, or Grous*, Bartram, *p.* 290.—*Heath-hen, Prairie-hen, Barren-hen.*—Peale's *Museum*, *No.* 4700, *male*—4701, *female.*

Before I enter on a detail of the observations which I have myself personally made on this singular species, I shall lay before the reader a comprehensive and very circumstantial memoir on the subject, communicated to me by the writer, Dr. Samuel L. Mitchill of New York, whose exertions, both in his public and private capacity, in behalf of science, and in elucidating the natural history of his country, are well known; and highly honourable to his distinguished situation and abilities. That peculiar tract generally known by the name of the Brushy plains of Long Island, having been, for time immemorial, the resort of the bird now before us, some account of this particular range of country seemed necessarily connected with the subject, and has accordingly been obligingly attended to by the learned professor.

"*New York, Sept.* 19*th*, 1810.

"Dear Sir,

"It gives me much pleasure to reply to your letter of the twelfth instant, asking of me information concerning the Grouse of Long island.

"The birds which are known there emphatically by the name of Grouse, inhabit chiefly the forest-range. This district of the island may be estimated as being between forty and fifty miles in length, extending from Bethphage in Queen's county to the neighbourhood of the court-house in Suffolk. Its breadth is not more than six or seven. For although the island is bounded by the Sound separating it from Connecticut on the north, and by the Atlantic ocean on the south, there is a margin of several miles on each side in the actual possession of human beings.

"The region in which these birds reside, lies mostly within the towns of Oysterbay, Huntington, Islip, Smithtown, and Brook-haven; though it would be incorrect to say, that they were not to be met with sometimes in Riverhead and Southhampton.—Their territory has been defined by some sportsmen, as situated between Hempstead-plain on the west, and Shinnecock-plain on the east.

"The more popular name for them is *Heath-hens*. By this they are designated in the act of our legislature for the preservation of them and of other game. I well remember the passing of this law. The bill was introduced by Cornelius J. Bogert, esq. a member of the assembly from the city of New York. It was in the month of February, 1791.

"The statute declares among other things, that the person who shall kill any Heath-hen within the counties of Suffolk or Queens, between the first day of April and the fifth day of October, shall for every such offence, forfeit and pay the sum of two dollars and a half, to be recovered with costs of suit, by any person who shall prosecute for the same, before any justice of the peace, in either of the said counties; the one half to be paid to the plaintiff, and the other half to the overseers of the poor. And if any Heath-hen so killed, shall be found in the possession of any person, he shall be demed guilty of the offence, and suffer the penalty. But it is provided, that no defendant shall be convicted unless the action shall be brought within three months after the violation of the law.*

* The doctor has probably forgotten a circumstance of rather a ludicrous kind

"The country selected by these exquisite birds requires a more particular description. You already understand it to be the midland and interior district of the island. The soil of this island is, generally speaking, a sandy or gravelly loam. In the parts less adapted to tillage, it is more of an unmixed sand. This is so much the case, that the shore of the beaches beaten by the ocean, affords a material from which glass has been prepared. Siliceous grains and particles predominate in the region chosen by the Heath-hens or Grouse. Here there are no rocks, and very few stones of any kind. This sandy tract appears to be a dereliction of the ocean, but is nevertheless not doomed to total sterility. Many thousand acres have been reclaimed from the wild state, and rendered very productive to man. And within the towns frequented by these birds, there are numerous inhabitants, and among them some of our most wealthy farmers.

"But within the same limits, there are also tracts of great extent where men have no settlements, and others where the population is spare and scanty. These are however, by no means, naked desarts. They are, on the contrary, covered with trees, shrubs and smaller plants. The trees are mostly pitch-pines of inferior size, and white oaks of a small growth. They are of a quality very fit for burning. Thousands of cords of both sorts of fire-wood are annually exported from these barrens. Vast quantities are occasionally destroyed by the fires which through carelessness or accident spread far and wide through the woods. The city of New York will probably for ages derive fuel from the grouse-grounds. The land after having been cleared, yields to the cultivator poor crops. Unless therefore

that occurred at the passing of this law; and which was, not long ago, related to me by my friend Mr. Gardiner, of Gardiner's island, Long island. The bill was entitled "An Act for the preservation of Heath-hen and other Game." The honest chairman of the assembly, no sports-man I suppose, read the title "An Act for the preservation of HEATHEN and other Game!" which seemed to astonish the north members, who could not see the propriety of preserving *Indians*, or any other Heathen.

he can help it by manure, the best disposition is to let it grow up to forest again. Experience has proved, that in a term of forty or fifty years, the new growth of timber will be fit for the axe. Hence it may be perceived, that the reproduction of trees, and the protection they afford to Heath-hens would be perpetual; or in other words, not circumscribed by any calculable time; provided the persecutors of the latter would be quiet.

"Beneath these trees grow more dwarfish oaks, overspreading the surface, sometimes with here and there a shrub, and sometimes a thicket. These latter are from about two to ten feet in height. Where they are the principal product, they are called in common conversation *brush*, as the flats on which they grow are termed *Brushy plains*. Among this hardy shrubbery may frequently be seen the creeping vegetable named the partridge-berry covering the sand with its lasting verdure. In many spots the plant which produces hurtle-berries, sprout up among the other natives of the soil. These are the more important, though I ought to inform you that the hills reaching from east to west, and forming the spine of the island, support kalmias, hickories, and many other species; that I have seen azalias and andromedas as I passed through the wilderness; and that where there is water, crane-berries, alders, beeches, maples, and other lovers of moisture, take their stations.

"This region, situated thus between the more thickly inhabited strips or belts on the north and south sides of the island, is much travelled by wagons, and intersected accordingly by a great number of paths.

"As to the birds themselves, the information I possess scarcely amounts to an entire history. You, who know the difficulty of collecting facts, will be the most ready to excuse my deficiencies. The information I give you is such as I rely on. For the purpose of gathering the materials, I have repeatedly visited their haunts. I have likewise conversed with several men who were brought up at the precincts of the grouse-ground, who had been witnesses of their habits and manners, who were accus-

tomed to shoot them for the market, and who have acted as guides to gentlemen who go there for sport.

"*Bulk.*—An adult Grouse when fat weighs as much as a barn door fowl of moderate size, or about three pounds avoirdupoise. But the eagerness of the sportsman is so great, that a large proportion of those they kill, are but a few months old, and have not attained their complete growth. Notwithstanding the protection of the law, it is very common to disregard it. The retired nature of the situation favours this. It is well understood that an arrangement can be made which will blind and silence informers, and that the gun is fired with impunity, for weeks before the time prescribed in the act. To prevent this unfair and unlawful practice, an association was formed a few years ago, under the title of the *Brush club*, with the express and avowed intention of enforcing the game-law. Little benefit, however, has resulted from its laudable exertions; and under a conviction that it was impossible to keep the poachers away, the society declined. At present the statute may be considered as operating very little toward their preservation. Grouse, especially full-grown ones, are becoming less frequent. Their numbers are gradually diminishing; and assailed as they are on all sides, almost without cessation their scarcity may be viewed as foreboding their eventual extermination.

"*Price.*—Twenty years ago a brace of Grouse could be bought for a dollar. They now cost from three to five dollars. A handsome pair seldom sells in the New York market now a days for less than thirty shillings [three dollars, seventy-five cents], nor for more than forty [five dollars]. These prices indicate indeed the depreciation of money, and the luxury of eating. They prove at the same time, that Grouse are become rare; and this fact is admitted by every man who seeks them, whether for pleasure or for profit.

"*Amours.*—The season for pairing is in March, and the breeding time is continued through April and May. Then the male Grouse distinguishes himself by a peculiar sound. When he utters it, the parts about the throat are sensibly inflated and

swelled. It may be heard on a still morning for three or more miles; some say they have perceived it as far as five or six. This noise is a sort of ventriloquism. It does not strike the ear of a bystander with much force; but impresses him with the idea, though produced within a few rods of him, of a voice a mile or two distant. This note is highly characteristic. Though very peculiar, it is termed *tooting*, from its resemblance to the blowing of a conch or horn from a remote quarter. The female makes her nest on the ground, in recesses very rarely discovered by men. She usually lays from ten to twelve eggs. Their colour is of a brownish, much resembling those of a Guinea-hen. When hatched, the brood is protected by her alone. Surrounded by her young, the mother bird exceedingly resembles a domestic hen and chickens. She frequently leads them to feed in the roads crossing the woods, on the remains of maize and oats contained in the dung dropped by the travelling horses. In that employment they are often surprised by the passengers. On such occasions the dam utters a cry of alarm. The little ones immediately scamper to the brush; and while they are skulking into places of safety, their anxious parent beguiles the spectator by drooping and fluttering her wings, limping along the path, rolling over in the dirt, and other pretences of inability to walk or fly.

"*Food.*—A favourite article of their diet is the *heath-hen plum*, or partridge-berry before mentioned. They are fond of hurtle-berries, and crane-berries. Worms and insects of several kinds are occasionally found in their crops. But in the winter they subsist chiefly on acorns, and the buds of trees which have shed their leaves. In their stomachs have been sometimes observed the leaves of a plant supposed to be a winter green; and it is said, when they are much pinched, they betake themselves to the buds of the pine. In convenient places they have been known to enter cleared fields, and regale themselves on the leaves of clover; and old gunners have reported that they have been known to trespass upon patches of buckwheat, and pick up the grains.

"*Migration.*—They are stationary, and never known to quit their abode. There are no facts showing in them any disposition to migration. On frosty mornings and during snows, they perch on the upper branches of pine-trees. They avoid wet and swampy places; and are remarkably attached to dry ground. The low and open brush is preferred to high shrubbery and thickets. Into these latter places, they fly for refuge when closely pressed by the hunters, and here, under a stiff and impenetrable cover, they escape the pursuit of dogs and men. Water is so seldom met with on the true grouse-ground, that it is necessary to carry it along for the pointers to drink. The flights of Grouse are short, but sudden, rapid and whirring. I have not heard of any success in taming them. They seem to resist all attempts at domestication. In this as well as in many other respects, they resemble the Quail of New York, or the Partridge of Pennsylvania.

"*Manners.*—During the period of mating, and while the females are occupied in incubation, the males have a practice of assembling, principally by themselves. To some select and central spot where there is very little underwood, they repair from the adjoining district. From the exercises performed there, this is called a *scratching-place.* The time of meeting is the break of day. As soon as the light appears, the company assembles from every side, sometimes to the number of forty or fifty. When the dawn is past, the ceremony begins by a low tooting from one of the cocks. This is answered by another. They then come forth one by one from the bushes, and strut about with all the pride and ostentation they can display. Their necks are incurvated; the feathers on them are erected into a sort of ruff; the plumes of their tails are expanded like fans; they strut about in a style resembling, as nearly as small may be illustrated by great, the pomp of the turkey-cock. They seem to vie with each other in stateliness; and as they pass each other frequently cast looks of insult, and utter notes of defiance. These are the signals for battles. They engage with wonderful spirit and fierceness. During these contests, they leap a foot or

two from the ground, and utter a cackling, screaming and discordant cry.

"They have been found in these places of resort even earlier than the appearance of light in the east. This fact has led to the belief that a part of them assemble over night. The rest join them in the morning. This leads to the further belief that they roost on the ground. And the opinion is confirmed by the discovery of little rings of dung, apparently deposited by a flock which had passed the night together. After the appearance of the sun they disperse.

"These places of exhibition have been often discovered by the hunters; and a fatal discovery it has been for the poor Grouse. Their destroyers construct for themselves lurking holes made of pine branches, called *bough-houses*, within a few yards of the parade. Hither they repair with their fowling-pieces in the latter part of the night, and wait the appearance of the birds. Watching the moment when two are proudly eyeing each other, or engaged in battle; or when a greater number can be seen in a range, they pour on them a destructive charge of shot. This annoyance has been given in so many places, and to such extent, that the Grouse, after having been repeatedly disturbed, are afraid to assemble. On approaching the spot to which their instinct prompts them, they perch on the neighbouring trees, instead of alighting at the scratching place. And it remains to be observed, how far the restless and tormenting spirit of the marksmen, may alter the native habits of the Grouse, and oblige them to betake themselves to new ways of life.

"They commonly keep together in coveys, or *packs*, as the phrase is, until the pairing season. A full pack consists of course of ten or a dozen. Two packs have been known to associate. I lately heard of one whose number amounted to twenty-two. They are so unapt to be startled, that a hunter, assisted by a dog, has been able to shoot almost a whole pack, without making any of them take wing. In like manner the men lying in concealment near the scratching places, have been known to discharge several guns before either the report of the explosion,

or the sight of their wounded and dead fellows would rouse them to flight. It has further been remarked, that when a company of sportsmen have surrounded a pack of Grouse, the birds seldom or never rise upon their pinions while they are encircled; but each runs along until it passes the person that is nearest, and then flutters off with the utmost expedition.

"As you have made no inquiry of me concerning the ornithological character of these birds, I have not mentioned it, presuming that you are already perfectly acquainted with their classification and description. In a short memoir written in 1803, and printed in the eighth volume of the Medical Repository, I ventured an opinion as to the genus and species. Whether I was correct is a technical matter, which I leave you to adjust. I am well aware that European accounts of our productions are often erroneous, and require revision and amendment. This you must perform. For me it remains to repeat my joy at the opportunity your invitation has afforded me to contribute somewhat to your elegant work, and at the same time to assure you of my earnest hope that you may be favoured with ample means to complete it.

"Samuel L. Mitchill."

Duly sensible of the honor of the foregoing communication, and grateful for the good wishes with which it is concluded, I shall now, in further elucidation of the subject, subjoin a few particulars properly belonging to my own department.

It is somewhat extraordinary that the European naturalists, in their various accounts of our different species of Grous, should have said little or nothing of the one now before us, which in its voice, manners, and peculiarity of plumage, is the most singular, and in its flesh the most excellent, of all those of its tribe that inherit the territory of the United States. It seems to have escaped Catesby during his residence and different tours through this country, and it was not till more than twenty years after his return to England, *viz.* in 1743, that he first saw some of these birds, as he informs us, at Cheswick, the seat of the earl of Wilmington. His lordship said they came

from America; but from what particular part could not tell.* Buffon has confounded it with the Ruffed Grous, the common Partridge of New England, or Pheasant of Pennsylvania (*Tetrao umbellus;*) Edwards and Pennant have, however, discovered that it is a different species; but have said little of its note, of its flesh, or peculiarities; for, alas! there was neither voice, nor action, nor delicacy of flavour in the shrunk and decayed skin from which the former took his figure, and the latter his description; and to this circumstance must be attributed the barrenness and defects of both.

That the curious may have an opportunity of examining to more advantage this singular bird, a figure of the male is here given as large as life, drawn with great care from the most perfect of several elegant specimens shot in the Barrens of Kentucky. He is represented in the act of *strutting*, as it is called, while with inflated throat he produces that extraordinary sound so familiar to every one who resides in his vicinity, and which has been described in the foregoing account. So very novel and characteristic did the action of these birds appear to me at first sight, that, instead of shooting them down, I sketched their attitude hastily on the spot; while concealed among a brush-heap, with seven or eight of them within a short distance. Three of these I afterwards carried home with me.

This rare bird, though an inhabitant of different and very distant districts of North America, is extremely particular in selecting his place of residence; pitching only upon those tracts whose features and productions correspond with his modes of life; and avoiding immense intermediate regions that he never visits. Open dry plains, thinly interspersed with trees, or partially overgrown with shrub-oak, are his favourite haunts. Accordingly we find these birds on the Grous plains of New Jersey, in Burlington county, as well as on the Brushy plains of Long Island—among the pines and shrub-oaks of Pocano, in Northampton county, Pennsylvania—over the whole extent of the Barrens of Kentucky—on the luxuriant plains and prairies

*Catesb. Car. p. 101, App.

of the Indiana territory, and Upper Louisiana; and according to the information of the late governor Lewis, on the vast and remote plains of the Columbia river. In all these places preserving the same singular habits.

Their predilection for such situations will be best accounted for by considering the following facts and circumstances. First, their mode of flight is generally direct, and laborious, and ill calculated for the labyrinth of a high and thick forest, crowded and intersected with trunks and arms of trees, that require continual angular evolution of wing, or sudden turnings, to which they are by no means accustomed. I have always observed them to avoid the high-timbered groves that occur here and there in the Barrens. Connected with this fact is a circumstance related to me by a very respectable inhabitant of that country, *viz.* that one forenoon a cock Grous struck the stone chimney of his house with such force as instantly to fall dead to the ground.

Secondly, their known dislike of ponds, marshes, or watery places, which they avoid on all occasions, drinking but seldom, and, it is believed, never from such places. Even in confinement this peculiarity has been taken notice of. While I was in the state of Tennesee, a person living within a few miles of Nashville had caught an old hen Grous in a trap; and being obliged to keep her in a large cage, as she struck and abused the rest of the poultry, he remarked that she never drank; and that she even avoided that quarter of the cage where the cup containing the water was placed. Happening one day to let some water fall on the cage, it trickled down in drops along the bars, which the bird no sooner observed, than she eagerly picked them off, drop by drop, with a dexterity that showed she had been habituated to this mode of quenching her thirst; and probably to this mode only, in those dry and barren tracts, where, except the drops of dew, and drops of rain, water is very rarely to be met with. For the space of a week he watched her closely to discover whether she still refused to drink; but, though she was constantly fed on Indian corn, the

cup and water still remained untouched and untasted. Yet no sooner did he again sprinkle water on the bars of the cage, than she eagerly and rapidly picked them off as before.

The last, and probably the strongest inducement to their preferring these plains, is the small acorn of the shrub-oak; the strawberries, huckle berries, and partridge berries with which they abound, and which constitute the principal part of the food of these birds. These brushy thickets also afford them excellent shelter, being almost impenetrable to dogs or birds of prey.

In all these places where they inhabit they are, in the strictest sense of the word, resident; having their particular haunts, and places of rendezvous, (as described in the preceding account,) to which they are strongly attached. Yet they have been known to abandon an entire tract of such country, when, from whatever cause it might proceed, it became again covered with forest. A few miles south of the town of York, in Pennsylvania, commences an extent of country, formerly of the character described, now chiefly covered with wood; but still retaining the name of *Barrens*. In the recollection of an old man born in that part of the country, this tract abounded with Grous.

The timber growing up, in progress of years, these birds totally disappeared; and for a long period of time he had seen none of them; until migrating with his family to Kentucky, on entering the barrens he one morning recognized the well known music of his old acquaintance the Grous; which he assures me are the very same with those he had known in Pennsylvania.

But what appears to me the most remarkable circumstance relative to this bird is, that not one of all those writers who have attempted its history has taken the least notice of those two extraordinary bags of yellow skin which mark the neck of the male, and which constitute so striking a peculiarity. These appear to be formed by an expansion of the gullet as well as of the exterior skin of the neck, which, when the bird is at rest, hangs in loose pendulous wrinkled folds, along the side of the neck, the supplemental wings, at the same time, as well as when

the bird is flying, lying along the neck in the manner represented in one of the distant figures in the plate. But when these bags are inflated with air, in breeding time, they are equal in size and very much resemble in colour, a middle sized fully ripe orange. By means of this curious apparatus, which is very observable several hundred yards off, he is enabled to produce the extraordinary sound mentioned above, which, though it may easily be imitated, is yet difficult to describe by words. It consists of three notes, of the same tone, resembling those produced by the Night Hawks in their rapid descent; each strongly accented, the last being twice as long as the others. When several are thus engaged, the ear is unable to distinguish the regularity of these triple notes, there being at such times one continued bumming, which is disagreeable and perplexing, from the impossibility of ascertaining from what distance or even quarter it proceeds. While uttering this the bird exhibits all the ostentatious gesticulations of a turkey-cock; erecting and fluttering his neck wings, wheeling and passing before the female, and close before his fellows, as in defiance. Now and then are heard some rapid cackling notes, not unlike that of a person tickled to excessive laughter; and in short one can scarcely listen to them without feeling disposed to laugh from sympathy. These are uttered by the males while engaged in fight, on which occasion they leap up against each other, exactly in the manner of turkeys, seemingly with more malice than effect. This bumming continues from a little before daybreak to eight or nine o'clock in the morning, when the parties separate to seek for food.

Fresh ploughed fields, in the vicinity of their resorts, are sure to be visited by these birds every morning, and frequently also in the evening. On one of these I counted, at one time, seventeen males, most of whom were in the attitude represented in the plate; making such a continued sound as I am persuaded might have been heard for more than a mile off. The people of the Barrens informed me, that when the weather became severe, with snow, they approach the barn and farm-

house; are sometimes seen sitting on the fences in dozens; mix with the poultry, and glean up the scattered grains of Indian corn; seeming almost half domesticated. At such times great numbers are taken in traps. No pains, however, or regular plan has ever been persisted in, as far as I was informed to domesticate these delicious birds. A Mr. Reed, who lives between the Pilot Knobs and Bairdstown, told me, that a few years ago, one of his sons found a Grous's nest, with fifteen eggs, which he brought home, and immediately placed below a hen then sitting; taking away her own. The nest of the Grous was on the ground, under a tussock of long grass, formed with very little art and few materials; the eggs were brownish white, and about the size of a pullet's. In three or four days the whole were hatched. Instead of following the hen, they compelled her to run after *them*, distracting her with the extent and diversity of their wanderings; and it was a day or two before they seemed to understand her language, or consent to be guided by her. They were let out to the fields, where they paid little regard to their nurse; and in a few days, only three of them remained. These became extremely tame and familiar, were most expert fly catchers; but soon after they also disappeared.

The Pinnated Grous is nineteen inches long, twenty-seven inches in extent, and when in good order, weighs about three pounds and a half; the neck is furnished with supplemental wings, each composed of eighteen feathers, five of which are black, and about three inches long, the rest shorter, also black, streaked laterally with brown, and of unequal lengths; the head is slightly crested; over the eye is an elegant semicircular comb of rich orange, which the bird has the power of raising or relaxing; under the neck wings are two loose pendulous and wrinkled skins, extending along the side of the neck for two-thirds of its length, each of which, when inflated with air, resembles, in bulk, colour and surface, a middle sized orange; chin cream-coloured; under the eye runs a dark streak of brown; whole upper parts mottled transversely with black, reddish brown and white; tail short, very much rounded, and of a plain

brownish soot colour; throat elegantly marked with touches of reddish brown, white and black; lower part of the breast and belly pale brown, marked transversely with white; legs covered to the toes with hairy down, of a dirty drab colour; feet dull yellow, toes pectinated; vent whitish; bill brownish horn colour; eye reddish hazel. The female is considerably less, of a lighter colour; destitute of the neck wings, the naked yellow skin on the neck, and the semicircular comb of yellow over the eye.

On dissecting these birds the gizzard was found extremely muscular, having almost the hardness of a stone; the heart remarkably large; the crop was filled with briar knots, containing the larvæ of some insect,—quantities of a species of green lichen, small hard seeds, and some grains of Indian corn.

GENUS 57. PERDIX.

SPECIES P. VIRGINIANUS.

QUAIL, OR PARTRIDGE.

[Plate XLVII.—Fig. 2.]

Arct. Zool. 318, *No.* 185.—Catesb. *App. p.* 12.—*Virginian Quail*, Turt. *Syst. p.* 460.—*Maryland* Q. *Ibid.*—*Le Perdrix d'Amerique*, Briss. I, 231.—Buff. II, 447.*

This well-known bird is a general inhabitant of North America, from the northern parts of Canada and Nova Scotia, in which latter place it is said to be migratory, to the extremity of the peninsula of Florida; and was seen in the neighbourhood of the Great Osage village, in the interior of Louisiana. They are numerous in Kentucky and Ohio; Mr. Pennant remarks that they have been lately introduced into the island of Jamaica, where they appear to thrive greatly, breeding in that warm climate twice in the year. Captain Henderson mentions them as being plenty near the Balize, at the Bay of Honduras. They rarely frequent the forest, and are most numerous in the vicinity of well cultivated plantations, where grain is in plenty. They, however, occasionally seek shelter in the woods, perching on the branches, or secreting among the brush wood; but are found most usually in open fields, or along fences sheltered by thickets of briars. Where they are not too much persecuted by the sportsmen, they become almost half domesticated; approach the barn, particularly in winter, and sometimes in that severe season mix with the poultry, to glean up a subsistence. They remain with us the whole year, and often suffer extremely

* *Tetrao Virginianus*, Linn. *Syst. ed.* 10, *p.* 161. *T. Marilandicus, id. ib.*—*Perdix Virginiana*, Lath. *Ind. Orn. p.* 650. *P. Marilanda, id p.* 651.—*Caille de la Louisiane*, Buff. *Pl. Enl.* 149.

by long hard winters, and deep snows. At such times the arts of man combine with the inclemency of the season for their destruction. To the ravages of the gun are added others of a more insidious kind. Traps are placed on almost every plantation, in such places as they are known to frequent. These are formed of lath, or thinly split sticks, somewhat in the shape of an obtuse cone, laced together with cord, having a small hole at top, with a sliding lid, to take out the game by. This is supported by the common *figure* 4 trigger, and grain is scattered below, and leading to the place. By this contrivance ten or fifteen have sometimes been taken at a time. These are sometimes brought alive to market, and occasionally bought up by sportsmen, who, if the season be very severe, sometimes preserve and feed them till spring, when they are humanely turned out to their native fields again, to be put to death, at some future time, *secundem artem*. Between the months of August and March, great numbers of these birds are brought to the market of Philadelphia, where they are sold from twelve to eighteen cents a-piece.

The Quail begins to build early in May. The nest is made on the ground, usually at the bottom of a thick tuft of grass that shelters and conceals it. The materials are leaves and fine dry grass, in considerable quantity. It is well covered above, and an opening left on one side for entrance. The female lays from fifteen to twenty-four eggs, of a pure white without any spots. The time of incubation has been stated to me by various persons at four weeks, when the eggs were placed under the domestic hen. The young leave the nest as soon as they are freed from the shell, and are conducted about in search of food by the female; are guided by her voice, which at that time resembles the twittering of young chickens, and sheltered by her wings, in the same manner as those of the domestic fowl; but with all that secrecy and precaution for their safety, which their helplessness and greater danger require. In this situation should the little timid family be unexpectedly surprised, the utmost alarm and consternation instantly prevail. The mother

throws herself in the path, fluttering along, and beating the ground with her wings, as if sorely wounded, using every artifice she is master of, to entice the passenger in pursuit of herself, uttering at the same time certain peculiar notes of alarm, well understood by the young, who dive separately amongst the grass, and secrete themselves till the danger is over; and the parent, having decoyed the pursuer to a safe distance, returns, by a circuitous route, to collect and lead them off. This well known manœuvre, which nine times in ten is successful, is honourable to the feelings and judgment of the bird, but a severe satire on man. The affectionate mother, as if sensible of the avaricious cruelty of his nature, tempts him with a larger prize, to save her more helpless offspring; and pays him, as avarice and cruelty ought always to be paid, with mortification and disappointment.

The eggs of the Quail have been frequently placed under the domestic hen, and hatched and reared with equal success as her own; though, generally speaking, the young Partridges being more restless and vagrant, often lose themselves, and disappear. The hen ought to be a particularly good nurse, not at all disposed to ramble, in which case they are very easily raised. Those that survive, acquire all the familiarity of common chickens; and there is little doubt that if proper measures were taken, and persevered in for a few years, that they might be completely domesticated. They have been often kept during the first season, and through the whole of the winter, but have uniformly deserted in the spring. Two young Partridges that were brought up by a hen, when abandoned by her, associated with the cows, which they regularly followed to the fields, returned with them when they came home in the evening, stood by them while they were milked, and again accompanied them to the pasture. These remained during the winter, lodging in the stable, but as soon as spring came they disappeared. Of this fact I was informed by a very respectable lady, by whom they were particularly observed.

It has been frequently asserted to me, that the Quails lay oc-

casionally in each other's nests. Though I have never myself seen a case of this kind, I do not think it altogether improbable, from the fact, that they have often been known to drop their eggs in the nest of the common hen, when that happened to be in the fields, or at a small distance from the house. The two Partridges above mentioned were raised in this manner; and it was particularly remarked by the lady, who gave me the information, that the hen sat for several days after her own eggs where hatched, until the young Quails made their appearance.

The Partridge, on her part, has sometimes been employed to hatch the eggs of the common domestic hen. A friend of mine, who himself made the experiment, informs me, that of several hen's eggs which he substituted in place of those of the Partridge, she brought out the whole; and that for several weeks he occasionally surprised her in various parts of the plantation, with her brood of *chickens;* on which occasions she exhibited all that distressful alarm, and practised her usual manœuvres for their preservation. Even after they were considerably grown, and larger than the Partridge herself, she continued to lead them about; but though their notes, or call, were those of common chickens, their manners had all the shyness, timidity and alarm of young Partridges; running with great rapidity, and squatting in the grass exactly in the manner of the Partridge. Soon after this they disappeared, having probably been destroyed by dogs, by the gun, or by birds of prey. Whether the domestic fowl might not by this method be very soon brought back to its original savage state, and thereby supply another additional subject for the amusement of the sportsman, will scarcely admit of a doubt. But the experiment, in order to secure its success, would require to be made in a quarter of the country less exposed than ours to the ravages of guns, traps, dogs, and the deep snows of winter, that the new tribe might have full time to become completely naturalized, and well fixed in all their native habits.

About the beginning of September, the Quails being now nearly full grown, and associated in flocks, or coveys, of from

four or five to thirty, afford considerable sport to the gunner. At this time the notes of the male are most frequent, clear and loud. His common call consists of two notes, with sometimes an introductory one, and is similar to the sound produced by pronouncing the words "Bob White." This call may be easily imitated by whistling, so as to deceive the bird itself, and bring it near. While uttering this he is usually perched on a rail of the fence, or on a low limb of an apple-tree, where he will sometimes sit, repeating at short intervals "Bob White," for half an hour at a time. When a covey are assembled in a thicket or corner of a field, and about to take wing, they make a low twittering sound, not unlike that of young chickens; and when the covey is dispersed, they are called together again by a loud and frequently repeated note, peculiarly expressive of tenderness and anxiety.

The food of the Partridge consists of grain, seeds, insects, and berries of various kinds. Buckwheat and Indian corn are particular favourites. In September and October the buckwheat fields afford them an abundant supply, as well as a secure shelter. They usually roost at night in the middle of a field on high ground; and from the circumstance of their dung being often found in such places, in one round heap, it is generally conjectured that they roost in a circle, with their heads outwards, each individual in this position forming a kind of guard to prevent surprise. They also continue to lodge for several nights in the same spot.

The Partridge, like all the rest of the gallinaceous order, flies with a loud whirring sound, occasioned by the shortness, concavity, and rapid motion of its wings, and the comparative weight of its body. The steadiness of its horizontal flight, however, renders it no difficult mark to the sportsman, particularly when assisted by his sagacious pointer. The flesh of this bird is peculiarly white, tender and delicate, unequalled, in these qualities, by that of any other of its genus in the United States.

The Quail as it is called in New England, or the *Partridge*, as in Pennsylvania, is nine inches long, and fourteen inches in

extent; the bill is black; line over the eye, down the neck, and whole chin, pure white, bounded by a band of black, which descends and spreads broadly over the throat; the eye is dark hazel; crown, neck, and upper part of the breast, red brown; sides of the neck spotted with white and black, on a reddish brown ground; back, scapulars and lesser coverts, red brown, intermixed with ash, and sprinkled with black; tertials edged with yellowish white; wings plain dusky; lower part of the breast and belly pale yellowish white; beautifully marked with numerous curving spots or arrow heads of black; tail ash, sprinkled with reddish brown; legs very pale ash.

The female differs in having the chin and sides of the head yellowish brown, in which dress it has been described as a different kind. There is, however, only one species of Quail at present known within the United States.

INTRODUCTION

TO THE

WATER BIRDS.

We now enter upon the second grand division of our subject, Water Birds; and on that particular class, or order, usually denominated *Grallæ*, or Waders. Here a new assemblage of scenery, altogether different from the former, presents itself for our contemplation. Instead of rambling through the leafy labyrinths of umbrageous groves, fragrance-breathing orchards, fields and forests, we must now descend into the watery morass, and mosquitoe-swamp; traverse the windings of the river, the rocky cliffs, bays and inlets of the sea-beat shore, listening to the wild and melancholy screams of a far different multitude; a multitude less intimate indeed with man, though not less useful; as they contribute liberally to his amusement, to the abundance of his table, the warmth of his bed, and the comforts of his repose.

In contemplating the various, singular and striking, peculiarities of these, we shall every where find traces of an infinitely wise and beneficent Creator. In every deviation of their parts from the common conformation of such as are designed for the land alone, we may discover a wisdom of design never erring, never failing in the means it provides for the accomplishment of its purpose. Instead therefore of imitating the wild presumption, or rather profanity, of those who have censured as rude, defective or deformed, whatever, in those and other organized beings, accorded not with their narrow conceptions; let it be ours to search with humility into the *intention* of those particular conformations; and thus, entering as it were into the designs of

the Deity, we shall see in every part of the work of his hands abundant cause to exclaim with the enraptured poet of nature,

"O Wisdom infinite! Goodness immense!
And Love that passeth knowledge!"

In the present volume, the greater part of such of the Waders as belong to the territories of the United States, will be found delineated and described. This class naturally forms an intermediate link between the Land birds and the Web-footed, partaking, in their form, food and habits, of the characters of both; and equally deserving of our regard and admiration. Though formed for traversing watery situations, often in company with the Swimmers, they differ from these last in one circumstance common to Land Birds, the separation of the toes nearly to their origin; and in the habit of seldom venturing beyond their depth. On the other hand, they are furnished with legs of extraordinary length, bare for a considerable space above the knees, by the assistance of which they are enabled to walk about in the water in pursuit of their prey, where the others are obliged to swim; and also with necks of corresponding length, by means of which they can search the bottom for food, where the others must have recourse to diving. The bills of one family (the Herons) are strong, sharp pointed, and of considerable length; while the flexibility of the neck, the rapidity of its action, and remarkable acuteness of sight, wonderfully fit them for watching, striking, and securing their prey. Those whose food consists of more feeble and sluggish insects, that lie concealed deeper in the mud, are provided with bills of still greater extension, the rounded extremity of which possesses such nice sensibility, as to enable its possessor to detect its prey the instant it comes in contact with it, though altogether beyond the reach of sight.

Other families of this same order, formed for traversing the sandy sea-beach in search of small shell-fish that lurk just below the surface, have the bills and legs necessarily shorter; but

their necessities requiring them to be continually on the verge of the flowing or retreating wave, the activity of their motions forms a striking contrast with the patient habits of the Heron tribe, who sometimes stand fixed and motionless, for hours together, by the margin of the pool or stream, watching to surprise their scaly prey.

Some few again, whose favourite food lies at the soft oozy bottoms of shallow pools, have the bill so extremely slender and delicate, as to be altogether unfit for penetrating either the muddy shores, or sandy sea-beach; though excellently adapted for its own particular range, where lie the various kinds of food destined for their subsistence. Of this kind are the *Avosets* of the present volume, who not only wade with great activity in considerably deep water; but having the feet nearly half-webbed, combine in one the characters of both wader and swimmer.

It is thus, that by studying the living manners of the different tribes in their native retreats, we not only reconcile the singularity of some parts of their conformation with divine wisdom; but are enabled to comprehend the reason of many others, which the pride of certain closet naturalists has arraigned as lame, defective and deformed.

One observation more may be added: the migrations of this class of birds are more generally known and acknowledged than that of most others. Their comparatively large size and immense multitudes, render their regular periods of migration (so strenuously denied to some others) notorious along the whole extent of our sea-coast. Associating, feeding, and travelling together in such prodigious and noisy numbers, it would be no less difficult to conceal their arrival, passage and departure, than that of a vast army through a thickly peopled country. Constituting also, as many of them do, an article of food and interest to man, he naturally becomes more intimately acquainted with their habits and retreats, than with those feeble and minute kinds, which offer no such inducement, and perform their migrations with more silence, in scattered parties, unheeded or overlooked. Hence many of the Waders can be traced from

their summer abodes, the desolate regions of Greenland and Spitzbergen, to the fens and sea-shores of the West India islands and South America, the usual places of their winter retreat, while those of the Purple Martin and common Swallow still remain, *in vulgar belief*, wrapt up in all the darkness of mystery.

Philadelphia, March 1*st*, 1819.

DIV. II. AVES AQUATICÆ. WATER BIRDS.

ORDER VII. GRALLÆ. WADERS.

GENUS 64. PLATALEA. SPOONBILL.

SPECIES. P. AJAJA.

ROSEATE SPOONBILL.

[Plate LXIII.—Fig. 1.]

Arct. Zool. No. 338.—Lath. *Syn. v.* 3, *p.* 16, *No.* 2.—*La Spatule couleur de Rose,* Briss. *Orn.* v, *p.* 356, 2, *pl.* 30.—*Pl. Enl. p.* 116.—Buff. vii, 456.—Peale's *Museum, No.* 3553.

This stately and elegant bird inhabits the seashores of America, from Brazil to Georgia. It also appears to wander up the Mississippi sometimes in summer, the specimen from which the figure in the plate was drawn having been sent me from the neighbourhood of Natchez, in excellent order; for which favour I am indebted to the family of my late benevolent and scientific friend, William Dunbar. esq., of that territory. It is now deposited in Mr. Peale's museum.

This species, however, is rarely seen to the northward of the Alatamaha river; and even along the peninsula of Florida is a scarce bird. In Jamaica, several other of the West India islands, Mexico, and Guiana, it is more common, but confines itself chiefly to the seashore, and the mouths of rivers. Captain Henderson says, it is frequently seen at Honduras. It wades about in quest of shell-fish, marine insects, small crabs and fish. In pursuit of these, it occasionally swims and dives.

There are few facts on record relative to this very singular bird. It is said that the young are of a blackish chestnut the

first year; of the roseate colour of the present the second year; and of a deep scarlet the third.*

Having never been so fortunate as to meet with them in their native wilds, I regret my present inability to throw any farther light on their history and manners. These, it is probable, may resemble, in many respects, those of the European species, the *White Spoonbill*, once so common in Holland.† To atone for this deficiency, I have endeavoured faithfully to delineate the figure of this American species, and may perhaps resume the subject, in some future part of the present work.

The Roseate Spoonbill, now before us, measured two feet six inches in length, and near four feet in extent; the bill was six inches and a half long, from the corner of the mouth, seven from its upper base, two inches over at its greatest width, and three quarters of an inch where narrowest; of a black colour for half its length, and covered with hard scaly protuberances, like the edges of oyster shells: these are of a whitish tint, stained with red; the nostrils are oblong, and placed in the centre of the upper mandible; from the lower end of each nostril there runs a deep groove along each side of the mandible, and about a quarter of an inch from its edge; whole crown and chin bare of plumage, and covered with a greenish skin: that below the under mandible dilatable, as in the genus Pelicanus; space round the eye orange; irides blood red; cheeks and hind-head a bare black skin; neck long, covered with short white feathers, some of which, on the upper part of the neck, are tipt with crimson; breast white, the sides of which are tinged with a brown burnt-colour; from the upper part of the breast proceeds a long tuft of fine hair-like plumage, of a pale rose colour; back

* Latham.

† The European species breeds on trees, by the sea-side; lays three or four white eggs, powdered with a few pale red spots, and about the size of those of a hen; are very noisy during breeding time; feed on fish, muscles, &c. which, like the Bald Eagle, they frequently take from other birds, frightening them by clattering their bill; they are also said to eat grass, weeds, and roots of reeds: they are migratory; their flesh reported to savour of that of a goose; the young are reckoned good food.

white, slightly tinged with brownish; wings a pale wild-rose colour, the shafts lake; the shoulders of the wings are covered with long hairy plumage of a deep and splendid carmine; upper and lower tail coverts the same rich red; belly rosy; rump paler; tail equal at the end, consisting of twelve feathers, of a bright brownish orange, the shafts reddish; legs, and naked part of the thighs, dark dirty red; feet half webbed; toes very long, particularly the hind one. The upper part of the neck had the plumage partly worn away, as if occasioned by resting it on the back, in the manner of the Ibis. The skin on the crown is a little wrinkled; the inside of the wing a much richer red than the outer.

GENUS 69. ARDEA. HERON.

SPECIES 1. *A. MINOR.*

AMERICAN BITTERN.

[Plate LXV.—Fig. 3.]

Le Butor de la Baye d'Hudson, Briss. v, *p.* 449. 25.—Buff. vii, *p.* 430.—Edw. 136. *var. A.*—Lath. *Syn.* iii, *p.* 58.—Peale's *Museum*, *No.* 3727.

This is a nocturnal species, common to all our sea and river marshes, though no where numerous; it rests all day among the reeds and rushes, and unless disturbed, flies and feeds only during the night. In some places it is called the Indian Hen, on the sea coast of New Jersey it is known by the name of *Dunkadoo*, a word probably imitative of its common note. They are also found in the interior, having myself killed one at the inlet of the Seneca Lake, in October. It utters at times a hollow guttural note among the reeds; but has nothing of that loud booming sound for which the European Bittern is so remarkable. This circumstance, with its great inferiority of size, and difference of marking, sufficiently prove them to be two distinct species, although hitherto the present has been classed as a mere *variety* of the European Bittern. These birds, we are informed, visit Severn river, at Hudson's Bay, about the beginning of June; make their nests in swamps, laying four cinereous-green eggs among the long grass. The young are said to be at first black.

These birds, when disturbed, rise with a hollow *kwa*, and are then easily shot down, as they fly heavily. Like other night birds their sight is most acute during the evening twilight; but their hearing is at all times exquisite.

The American Bittern is twenty-seven inches long, and three feet four inches in extent; from the point of the bill to the extremity of the toes it measures three feet; the bill is four inches long, the upper mandible black, the lower greenish yellow; lores, and eyelids yellow; irides bright yellow; upper part of the head flat, and remarkably deprest; the plumage there is of a deep blackish brown, long behind and on the neck, the general colour of which is a yellowish brown shaded with darker; this long plumage of the neck the bird can throw forward at will, when irritated, so as to give him a more formidable appearance; throat whitish, streaked with deep brown; from the posterior and lower part of the auriculars a broad patch of deep black passes diagonally across the neck, a distinguished characteristic of this species; the back is deep brown barred and mottled with innumerable specks and streaks of brownish yellow; quills black, with a leaden gloss, and tipt with yellowish brown; legs and feet yellow, tinged with pale green; middle claw pectinated; belly light yellowish brown streaked with darker, vent plain, thighs sprinkled on the outside with grains of dark brown; male and female nearly slike, the latter somewhat less. According to Bewick, the tail of the European Bittern contains only ten feathers; the American species has invariably twelve. The intestines measured five feet six inches in length, and were very little thicker than a common knitting-needle; the stomach is usually filled with fish or frogs.

This bird when fat is considered by many to be excellent eating.

SPECIES 2. *ARDEA CÆRULEA.*

BLUE CRANE, OR HERON.

[Plate LXII.—Fig. 3.]

Arct. Zool. No. 351.—Catesby, i, 76.—*Le Crabier bleu,* Buff. vii, 398.—Sloan. *Jam.* ii, 315.—Lath. *Syn. v.* 3, *p.* 78, *No.* 45, —*p.* 79, *var. A.*—*Ardea cærulescens,* Turt. *Syst. p.* 379.—Peale's *Museum, No.* 3782.*

In mentioning this species in his translation of the *Systema Naturæ,* Turton has introduced what he calls two *varieties,* one from New Zealand, the other from Brazil; both of which, if we may judge by their size and colour, appear to be entirely different and distinct species; the first being green with yellow legs, the last nearly one half less than the present. By this loose mode of discrimination, the precision of science being altogether dispensed with, the whole tribe of Cranes, Herons, and Bitterns may be styled mere *varieties* of the genus *Ardea.* The same writer has still farther increased this confusion, by designating as a different species his *Bluish Heron* (*A. cærulescens,*) which agrees almost exactly with the present. Some of these mistakes may probably have originated from the figure of this bird given by Catesby, which appears to have been drawn and coloured, not from nature, but from the glimmering recollections of memory, and is extremely erroneous. These remarks are due to truth, and necessary to the elucidation of the history of his species, which seems to be but imperfectly known in Europe.

The Blue Heron is properly a native of the warmer climates of the United States, migrating thence, at the approach of winter, to the tropical regions; being found in Cayenne, Jamaica,

* *Heron bleuâtre de Cayenne,* Buff. *Pl. Enl.* 349, *adult.*

and Mexico. On the muddy shores of the Mississippi, from Baton Rouge downwards to New Orleans, these birds are frequently met with. In spring they extend their migrations as far north as New England, chiefly in the vicinity of the sea; becoming more rare as they advance to the north. On the sea-beach of Cape May, I found a few of them breeding among the cedars, in company with the Snowy Heron, Night Heron, and Green Bittern. The figure and description of the present were taken from two of these, shot in the month of May, while in complete plumage. Their nests were composed of small sticks, built in the tops of the red cedars, and contained five eggs of a light blue colour, and of somewhat a deeper tint than those of the Night Heron. Little or no difference could be perceived between the colours and markings of the male and female. This remark is applicable to almost the whole genus; though from the circumstance of many of the yearling birds differing in plumage, they have been mistaken for females.

The Blue Heron, though in the northern states it is found chiefly in the neighbourhood of the ocean, probably on account of the greater temperature of the climate, is yet particularly fond of fresh water bogs, on the edges of the salt marsh. These it often frequents, wading about in search of tadpoles, lizards, various larvæ of winged insects, and mud worms. It moves actively about in search of these, sometimes making a run at its prey; and is often seen in company with the Snowy Heron, figured in the same plate. Like this last, it is also very silent, intent and watchful.

The genus Ardea is the most numerous of all the wading tribes, there being no less than ninety-six different species enumerated by late writers. These are again subdivided into particular families, each distinguished by a certain peculiarity. The Cranes, by having the head bald; the Storks, with the orbits naked; and the Herons, with the middle claw pectinated. To this last belong the Bitterns. Several of these are nocturnal birds, feeding only as the evening twilight commences, and reposing either among the long grass and reeds, or on tall trees,

in sequestered places, during the day. What is very remarkable, those night wanderers often associate, during the breeding season, with the others; building their nests on the branches of the same tree; and, though differing so little in external form, feeding on nearly the same food, living and lodging in the same place; yet preserve their race, language, and manners as perfectly distinct from those of their neighbours, as if each inhabited a separate quarter of the globe.

The Blue Heron is twenty-three inches in length, and three feet in extent; the bill is black, but from the nostril to the eye, in both mandibles, is of a rich light purplish blue; iris of the eye gray, pupil black, surrounded by a narrow silvery ring; eyelid light blue; the whole head and greater part of the neck, is of a deep purplish brown; from the crested hind-head shoot three narrow pointed feathers, that reach nearly six inches beyond the eye; lower part of the neck, breast, belly and whole body, a deep slate colour, with lighter reflections; the back is covered with long, flat, and narrow feathers, some of which are ten inches long, and extend four inches beyond the tail; the breast is also ornamented with a number of these long slender feathers; legs blackish green; inner side of the middle claw pectinated. The breast and sides of the rump, under the plumage, are clothed with a mass of yellowish white unelastic cottony down, similar to that in most of the tribe, the uses of which are not altogether understood. Male and female alike in colour.

The young birds of the first year are destitute of the purple plumage on the head and neck.

SPECIES 3. *ARDEA HERODIAS.*

GREAT HERON.

[Plate LXV.—Fig. 2.]

Le Heron hupe de Virginie, Briss. v, *p.* 416. 10.—*Le Grand Heron d'Amerique*, Buff. vii, *p.* 385.—*Larger crested Heron*, Catesb. *App. pl.* 10, *fig.* 1.—Lath. *Syn.* iii, *p.* 85.—*Arct. Zool. No.* 341.—Peale's *Museum*, *No.* 3629.

The history of this large and elegant bird having been long involved in error and obscurity,* I have taken more than common pains to present a faithful portrait of it in this place; and to add to that every fact and authentic particular relative to its manners which may be necessary to the elucidation of the subject.

The Great Heron is a constant inhabitant of the Atlantic coast from New York to Florida; in deep snows and severe weather seeking the open springs of the cedar and cypress swamps, and the muddy inlets occasionally covered by the tides. On the higher inland parts of the country, beyond the mountains, they are less numerous; and one which was shot in the upper parts of New Hampshire, was described to me as a great curiosity. Many of their breeding places occur in both Carolinas, chiefly in the vicinity of the sea. In the lower parts of New Jersey they have also their favourite places for building, and rearing their young. These are generally in the gloomy soli-

* Latham says of this species, that "all the upper parts of the body, the belly, tail and legs are *brown;*" and this description has been repeated by every subsequent compiler. Buffon, with his usual eloquent absurdity, describes the Heron as "exhibiting the picture of wretchedness, anxiety and indigence; condemned to struggle perpetually with misery and want; sickened with the restless cravings of a famished appetite;" a description so ridiculously untrue, that, were it possible for these birds to comprehend it, would excite the risibility of the whole tribe.

tudes of the tallest cedar swamps, where, if unmolested, they continue annually to breed for many years. These swamps are from half a mile to a mile in breadth, and sometimes five or six in length, and appear as if they occupied the former channel of some choked up river, stream, lake, or arm of the sea. The appearance they present to a stranger is singular. A front of tall and perfectly strait trunks, rising to the height of fifty or sixty feet without a limb, and crowded in every direction, their tops so closely woven together as to shut out the day, spreading the gloom of perpetual twilight below. On a nearer approach they are found to rise out of the water, which, from the impregnation of the fallen leaves and roots of the cedars, is of the colour of brandy. Amidst this bottom of congregated springs, the ruins of the former forest lie piled in every state of confusion. The roots, prostrate logs, and in many places the water, are covered with green mantling moss, while an undergrowth of laurel, fifteen or twenty feet high, intersects every opening so completely, as to render a passage through laborious and harrassing beyond description; at every step you either sink to the knees, clamber over fallen timber, squeeze yourself through between the stubborn laurels, or plunge to the middle in ponds made by the uprooting of large trees, and which the green moss concealed from observation. In calm weather the silence of death reigns in these dreary regions; a few interrupted rays of light shoot across the gloom; and unless for the occasional hollow screams of the Herons, and the melancholy chirping of one or two species of small birds, all is silence, solitude and desolation. When a breeze rises, at first it sighs mournfully through the tops; but as the gale increases, the tall mast-like cedars wave like fishing poles, and rubbing against each other, produce a variety of singular noises, that, with the help of a little imagination, resemble shrieks, groans, growling of bears, wolves and such like comfortable music.

On the tops of the tallest of these cedars the Herons construct their nests, ten or fifteen pair sometimes occupying a particular part of the swamp. The nests are large, formed of sticks, and

lined with smaller twigs, each occupies the top of a single tree. The eggs are generally four, of an oblong pointed form, larger than those of a hen, and of a light greenish blue without any spots. The young are produced about the middle of May, and remain on the trees until they are full as heavy as the old ones, being extremely fat, before they are able to fly. They breed but once in the season. If disturbed in their breeding place, the old birds fly occasionally over the spot, sometimes honking like a Goose, sometimes uttering a coarse hollow grunting noise like that of a hog, but much louder.

The Great Heron is said to be fat at the full moon, and lean at its decrease; this might be accounted for by the fact of their fishing regularly by moonlight through the greater part of the night, as well as during the day; but the observation is not universal, for at such times I have found some lean as well as others fat. The young are said to be excellent for the table, and even the old birds, when in good order, and properly cooked, are esteemed by many.

The principal food of the Great Heron is fish, for which he watches with the most unwearied patience, and seizes them with surprising dexterity. At the edge of the river, pond or seashore he stands fixed and motionless, sometimes for hours together. But his stroke is quick as thought, and sure as fate to the first luckless fish that approaches within his reach; these he sometimes beats to death, and always swallows head foremost, such being their uniform position in the stomach. He is also an excellent mouser, and of great service to our meadows in destroying the short-tailed or meadow mouse, so injurious to the banks. He also feeds eagerly on grasshoppers, various winged insects, particularly dragon flies, which he is very expert at striking, and also eats the seeds of that species of nymphæ usually called splatter docks, so abundant along our fresh water ponds and rivers.

The Heron has great powers of wing, flying sometimes very high, and to a great distance; his neck doubled, his head drawn in, and his long legs stretched out in a right line behind him,

appearing like a tail, and probably serving the same rudder-like office. When he leaves the sea coast, and traces on wing the courses of the creeks or rivers upwards, he is said to prognosticate rain; when downwards, dry weather. He is most jealously vigilant and watchful of man, so that those who wish to succeed in shooting the Heron, must approach him entirely unseen, and by stratagem. The same inducements, however, for his destruction do not prevail here as in Europe. Our sea shores and rivers are free to all for the amusement of fishing. Luxury has not yet constructed her thousands of fish ponds, and surrounded them with steel traps, spring guns, and Heron snares.* In our vast fens, meadows and sea marshes, this stately bird roams at pleasure, feasting on the never-failing magazines of frogs, fish, seeds and insects with which they abound, and of which he probably considers himself the sole lord and proprietor. I have several times seen the Bald Eagle attack and tease the Great Heron; but whether for sport, or to make him disgorge his fish, I am uncertain.

The common Heron of Europe (*Ardea major*) very much resembles the present, which might, as usual, have probably been ranked as the original stock, of which the present was a

* "The Heron," says an English writer, "is a very great devourer of fish, and does more mischief in a pond than an otter. People who have kept Herons have had the curiosity to number the fish they feed them with, into a tub of water, and counting them again afterwards, it has been found that they will eat up fifty moderate dace and roaches in a day. It has been found that in carp ponds visited by this bird, one Heron will eat up a thousand store carp in a year; and will hunt them so close as to let very few escape. The readiest method of destroying this mischievous bird is by fishing for him in the manner of pike, with a baited hook. When the haunt of the Heron is found out, three or four small roach, or dace, are to be procured, and each of them is to be baited on a wire, with a strong hook at the end, entering the wire just at the gills, and letting it run just under the skin to the tail; the fish will live in this manner for five or six days, which is a very essential thing: for if it be dead, the Heron will not touch it. A strong line is then to be prepared of silk and wire twisted together, and is to be about two yards long; tie this to the wire that holds the hook, and to the other end of it there is to be tied a stone of about a pound weight; let three or four of these baits be sunk in different shallow parts of the pond, and in a night or two's time the Heron will not fail to be taken with one or other of them."

mere degenerated species, were it not that the American is greatly superior in size and weight to the European species, the former measuring four feet four inches, and weighing upwards of seven pounds; the latter three feet three inches, and rarely weighing more than four pounds. Yet with the exception of size, and the rust coloured thighs of the present, they are extremely alike. The common Heron of Europe, however, is not an inhabitant of the United States.

The Great Heron does not receive his full plumage during the first season, nor until the Summer of the second. In the first season the young birds are entirely destitute of the white plumage of the crown, and the long pointed feathers of the back, shoulders, and breast. In this dress I have frequently shot them in Autumn. But in the third year, both males and females have assumed their complete dress, and, contrary to all the European accounts which I have met with, both are then so nearly alike in colour and markings, as scarcely to be distinguished from each other; both having the long flowing crest, and all the ornamental white pointed plumage of the back and breast. Indeed this sameness in the plumage of the males and females, when arrived at their perfect state, is a characteristic of the whole of the genus with which I am acquainted. Whether it be different with those of Europe, or that the young and imperfect birds have been hitherto mistaken for females I will not pretend to say, though I think the latter conjecture highly probable, as the Night Raven (*Ardea Nycticorax*) has been known in Europe for several centuries, and yet in all their accounts the sameness of the colours and plumage of the male and female of that bird is no where mentioned; on the contrary, the young or yearling bird has been universally described as the female.

On the eighteenth of May I examined, both externally and by dissection, five specimens of the Great Heron, all in complete plumage, killed in a cedar swamp near the head of Tuckahoe river, in Cape May county, New Jersey In this case the females could not be mistaken, as some of the eggs were nearly ready for exclusion.

Length of the Great Heron four feet four inches from the point of the bill to the end of the tail, and to the bottom of the feet five feet four inches; extent six feet; bill eight inches long, and one inch and a quarter in width, of a yellow colour, in some blackish on the ridge, extremely sharp at the point, the edges also sharp, and slightly serrated near the extremity; space round the eye from the nostril, a light purplish blue; irides orange, brightening into yellow where they join the pupil; forehead and middle of the crown white, passing over the eye; sides of the crown and hind head deep slate or bluish black, and elegantly crested, the two long tapering black feathers being full eight inches in length; chin, cheeks, and sides of the head white for several inches; throat white, thickly streaked with double rows of black; rest of the neck brownish ash, from the lower part of which shoot a great number of long narrow pointed white feathers that spread over the breast and reach nearly to the thighs; under these long plumes the breast itself, and middle of the belly is of a deep blackish slate, the latter streaked with white; sides blue ash, vent white; thighs and ridges of the wings a dark purplish rust colour; whole upper parts of the wings, tail, and body a fine light ash, the latter ornamented with a profusion of long narrow white tapering feathers, originating on the shoulders or upper part of the back, and falling gracefully over the wings; primaries very dark slate, nearly black; naked thighs brownish yellow; legs brownish black, tinctured with yellow, and netted with seams of whitish; in some the legs are nearly black. Little difference could be perceived between the plumage of the males and females; the latter were rather less, and the long pointed plumes of the back were not quite so abundant.

The young birds of the first year have the whole upper part of the head of a dark slate; want the long plumes of the breast and back; and have the body, neck, and lesser coverts of the wings considerably tinged with ferruginous.

On dissection the gullet was found of great width, from the mouth to the stomach, which has not the two strong muscular

coats that form the gizzard of some birds; it was more loose, of considerable and uniform thickness throughout, and capable of containing nearly a pint; it was entirely filled with fish, among which were some small eels, all placed head downwards; the intestines measured nine feet in length, were scarcely as thick as a goose-quill, and incapable of being distended; so that the vulgar story of the Heron swallowing eels which passing suddenly through him are repeatedly swallowed, is absurd and impossible. On the external coat of the stomach of one of these birds, opened soon after being shot, something like a blood vessel lay in several meandering folds, enveloped in a membrane, and closely adhering to the surface. On carefully opening this membrane it was found to contain a large round living worm, eight inches in length; another of like length was found coiled in the same manner on another part of the external coat. It may also be worthy of notice, that the intestines of the young birds of the first season, killed in the month of October, when they were nearly as large as the others, measured only six feet four or five inches, those of the full grown ones from eight to nine feet in length.

SPECIES 4. *ARDEA EGRETTA.*

GREAT WHITE HERON.

[Plate LXI.—Fig. 4.]

PEALE'S *Museum*, *No.* 3754; YOUNG, 3755.*

THIS tall and elegant bird, though often seen, during the summer, in our low marshes and inundated meadows; yet, on account of its extreme vigilance, and watchful timidity, is very difficult to be procured. Its principal residence is in the regions of the south, being found from Guiana, and probably beyond the line, to New York. It enters the territories of the United States late in February; this I conjecture from having first met with it in the southern parts of Georgia about that time. The high inland parts of the country it rarely or never visits; its favourite haunts are vast inundated swamps, rice fields, the low marshy shores of rivers, and such like places; where, from its size and colour, it is very conspicuous, even at a great distance.

The appearance of this bird, during the first season, when it is entirely destitute of the long flowing plumes of the back, is so different from the same bird in its perfect plumage, which it obtains in the third year, that naturalists and others very generally consider them as two distinct species. The opportunities which I have fortunately had, of observing them, with the train, in various stages of its progress, from its first appearance to its full growth, satisfies me that the Great White Heron with, and that without, the long plumes, are one and the same species, in different periods of age. In the museum of my friend Mr. Peale, there is a specimen of this bird, in which the train is wanting;

* *Ardea alba*, LINN. Syst. *Ed.* 10, *p.* 144.

but on a closer examination, its rudiments are plainly to be perceived, extending several inches beyond the common plumage.

The Great White Heron breeds in several of the extensive cedar swamps in the lower parts of New Jersey. Their nests are built on the trees, in societies; the structure and materials exactly similar to those of the Snowy Heron, but larger. The eggs are usually four, of a pale blue colour. In the months of July and August, the young make their first appearance in the meadows and marshes, in parties of twenty or thirty together. The large ditches with which the extensive meadows below Philadelphia are intersected, are regularly, about that season, visited by flocks of those birds; these are frequently shot; but the old ones are too sagacious to be easily approached. Their food consists of frogs, lizards, small fish, insects, seeds of the splatter-dock, (a species of *Nymphæ*) and small water snakes. They will also devour mice and moles, the remains of such having been at different times found in their stomachs.

The long plumes of these birds have at various periods been in great request, on the continent of Europe, particularly in France and Italy, for the purpose of ornamenting the female head-dress. When dyed of various colours, and tastefully fashioned, they form a light and elegant duster and mosquitoe brush. The Indians prize them for ornamenting their hair, or top-knot; and I have occasionally observed these people wandering through the market place of New Orleans, with bunches of those feathers for sale.

The Great White Heron measures five feet from the extremities of the wings, and three feet six inches from the tip of the bill to the end of the tail; the train extends seven or eight inches farther. This train is composed of a great number of long, thick, tapering shafts, arising from the lower part of the shoulders, and thinly furnished on each side with fine flowing hair-like threads, of several inches in length, covering the lower part of the back, and falling gracefully over the tail, which it entirely conceals. The whole plumage is of a snowy whiteness, except the train, which is slightly tinged with yellow

The bill is nearly six inches in length, of a rich orange yellow, tipt with black; irides a paler orange, pupil small, giving the bird a sharp and piercing aspect; the legs are long, stout, and of a black colour, as is the bare space of four inches above the knee; the span of the foot measures upwards of six inches; the inner edge of the middle claw is pectinated; the exterior and middle toes are united at the base for about half an inch, by a membrane.

The articulations of the vertebræ are remarkably long; the intestines measure upwards of eight feet, and are very narrow. The male and female are alike in plumage; both, when of full age, having the train equally long.

SPECIES 5. ARDEA VIRESCENS.

GREEN HERON.

[Plate LXI.—Fig. 1.]

Arct. Zool. No. 349.—Catesby, i, 80.—*Le Crabier vert*, Buff. vii, 404.—Lath. *Syn. v.* 3, *p.* 68, *No.* 30.—Peale's *Museum*, *No.* 3797.

This common and familiar species owes little to the liberality of public opinion, whose prejudices have stigmatized it with a very vulgar and indelicate nickname; and treat it on all occasions as worthless and contemptible. Yet few birds are more independent of man than this; for it fares best, and is always most numerous, where cultivation is least known or attended to; its favourite residence being the watery solitudes of swamps, pools and morasses, where millions of frogs and lizards "tune their nocturnal notes" in full chorus, undisturbed by the lords of creation.

The Green Bittern makes its first appearance in Pennsylvania early in April, soon after the marshes are completely thawed. There, among the stagnant ditches with which they are intersected, and amidst the bogs and quagmires, he hunts with great cunning and dexterity. Frogs and small fish are his principal game, whose caution, and facility of escape, require nice address, and rapidity of attack. When on the look-out for small fish, he stands in the water, by the side of the ditch, silent and motionless as a statue; his neck drawn in over his breast, ready for action. The instant a fry or minnow comes within the range of his bill, by a stroke quick and sure as that of the rattle-snake, he seizes his prey, and swallows it in an instant. He searches for small crabs, and for the various worms and larvæ, particularly those of the dragon-fly, which lurk in the mud, with equal adroitness. But the capturing of frogs requires much nicer management. These

wary reptiles shrink into the mire on the least alarm, and do not raise up their heads again to the surface without the most cautious circumspection. The Bittern, fixing his penetrating eye on the spot where they disappeared, approaches with slow stealing step, laying his feet so gently and silently on the ground as not to be heard or felt; and when arrived within reach stands fixed, and bending forwards, until the first glimpse of the frog's head makes its appearance, when, with a stroke instantaneous as lightning, he seizes it in his bill, beats it to death, and feasts on it at his leisure.

This mode of life, requiring little fatigue where game is so plenty, as is generally the case in all our marshes, must be particularly pleasing to the bird; and also very interesting, from the continual exercise of cunning and ingenuity necessary to circumvent its prey. Some of the naturalists of Europe, however, in their superior wisdom, think very differently; and one can scarcely refrain from smiling at the absurdity of those writers, who declare, that the lives of this whole class of birds are rendered miserable by toil and hunger; their very appearance, according to Buffon, presenting the image of suffering anxiety and indigence.*

When alarmed, the Green Bittern rises with a hollow guttural scream; does not fly far, but usually alights on some old stump, tree or fence adjoining, and looks about with extended neck; though sometimes this is drawn in so that his head seems to rest on his breast. As he walks along the fence, or stands gazing at you with outstreached neck, he has the frequent habit of jetting the tail. He sometimes flies high, with doubled neck, and legs extended behind, flapping the wings smartly, and travelling with great expedition. He is the least shy of all our Herons; and perhaps the most numerous and generally dispersed: being found far in the interior, as well as along our salt marshes; and every where about the muddy shores of our mill-ponds, creeks and large rivers.

*Hist. Nat. des Oiseaux, tome xxii, p. 343.

The Green Bittern begins to build about the twentieth of April; sometimes in single pairs in swampy woods; often in companies; and not unfrequently in a kind of association with the *Qua-birds*, or Night Herons. The nest is fixed among the branches of the trees; is constructed wholly of small sticks, lined with finer twigs, and is of considerable size, though loosely put together. The female lays four eggs, of the common oblong form, and of a pale light blue colour. The young do not leave the nest until able to fly; and for the first season, at least, are destitute of the long pointed plumage on the back; the lower parts are also lighter, and the white on the throat broader. During the whole summer, and until late in autumn, these birds are seen in our meadows and marshes, but never remain during winter in any part of the United States.

The Green Bittern is eighteen inches long, and twenty-five inches in extent; bill black, lighter below, and yellow at the base; chin and narrow streak down the throat yellowish white; neck dark vinaceous red; back covered with very long tapering pointed feathers, of a hoary green, shafted with white, on a dark green ground; the hind part of the neck is destitute of plumage, that it may be the more conveniently drawn in over the breast, but is covered with the long feathers of the throat, and sides of the neck that enclose it behind; wings and tail dark glossy green, tipt and bordered with yellowish white; legs and feet yellow, tinged before with green, the skin of these thick and moveable; belly ashy brown; irides bright orange; crested head very dark glossy green. The female, as I have particularly observed, in numerous instances, differs in nothing as to colour from the male; neither of them receive the long feathers on the back during the first season.

There is one circumstance attending this bird, which, I recollect, at first surprised me. On shooting and wounding one, I carried it some distance by the legs, which were at first yellow; but on reaching home, I perceived, to my surprise, that they were red. On letting the bird remain some time undisturbed, they again became yellow, and I then discovered that the action

of the hand had brought a flow of blood into them, and produced the change of colour. I have remarked the same in those of the Night Heron

SPECIES 6. *ARDEA EXILIS.*

LEAST BITTERN.

[Plate LXV.—Fig. 4.]

LATH. *Syn. v.* III, *p.* 66, *No*, 28.—PEALE'S *Museum*, *No.* 3814.

THIS is the smallest known species of the whole tribe. It is commonly found in fresh water meadows, and rarely visits the salt marshes. One shot near Great Egg Harbour was presented to me as a very uncommon bird. In the meadows of Schuylkill and Delaware below Philadelphia, a few of these birds breed every year, making their nests in the thick tussocks of grass, in swampy places. When alarmed they seldom fly far, but take shelter among the reeds or long grass. They are scarcely ever seen exposed, but skulk during the day; and, like the preceding species, feed chiefly in the night,

This little creature measures twelve inches in length, and sixteen in extent; the bill is more than two inches and a quarter long, yellow, ridged with black, and very sharp pointed; space round the eye pale yellow; irides bright yellow; whole upper part of the crested head, the back, scapulars and tail very deep slate reflecting slight tints of green; throat white, here and there tinged with buff; hind part of the neck dark chesnut bay, sides of the neck, cheeks, and line over the eye brown buff; lesser wing-coverts the same; greater wing-coverts chestnut, with a spot of the same at the bend of the wing, the primary coverts are also tipt with the same; wing quills dark slate; breast white, tinged with ochre, under which lie a number of blackish feathers; belly and vent white; sides pale ochre; legs greenish on the shins, hind part and feet yellow; thighs feathered to within a quarter of an inch of the knees, middle claw pectinated; toes tinged with pale green; feet large, the span of the foot measur-

ing two inches and three quarters. Male and female nearly alike in colour. The young birds are brown on the crown and back. The stomach was filled with small fish; and the intestines which were extremely slender, measured in length about four feet.

The Least Bittern is also found in Jamaica and several of the West India islands.

SPECIES 7. ARDEA LUDOVICIANA.

LOUISIANA HERON.

[Plate LXIV.—Fig. 1.]

PEALE'S *Museum*, *No.* 3750.

THIS is a rare and delicately formed species; occasionally found on the swampy river shores of South Carolina, but more frequently along the borders of the Mississippi, particularly below New Orleans. In each of these places it is migratory; and in the latter, as I have been informed, builds its nest on trees, amidst the inundated woods. Its manners correspond very much with those of the Blue Heron. It is quick in all its motions, darting about after its prey with surprising agility. Small fish, frogs, lizards, tadpoles, and various aquatic insects, constitute its principal food.

There is a bird described by Latham in his General Synopsis, vol. iii, p. 88, called the *Demi Egret*,* which from the account there given, seems to approach near to the present species. It is said to inhabit Cayenne.

Length of the Louisiana Heron from the point of the bill to the extremity of the tail twenty-three inches; the long hair-like plumage of the rump and lower part of the back extends several inches farther; the bill is remarkably long, measuring full five inches, of a yellowish green at the base, black towards the point, and very sharp; irides yellow; chin and throat white, dotted with ferruginous and some blue; the rest of the neck is of a light vinous purple, intermixed on the lower part next the breast with dark slate-coloured plumage; the whole feathers of the neck are long, narrow and pointed; head crested, consisting first of a

* See also Buffon, vol. vii, p. 378.

number of long narrow purple feathers, and under these seven or eight pendent ones, of a pure white, and twice the length of the former; upper part of the back and wings light slate; lower part of the back and rump white, but concealed by a mass of long unwebbed hair-like plumage, that falls over the tail and tips of the wings, extending three inches beyond them; these plumes are of a dirty purplish brown at the base, and lighten towards the extremities to a pale cream colour; the tail is even at the tip, rather longer than the wings, and of a fine slate; the legs and naked thighs greenish yellow; middle claw pectinated; whole lower parts pure white. Male and female alike in plumage, both being crested.

SPECIES 8. *ARDEA NYCTICORAX.*

NIGHT HERON, OR QUA-BIRD.

[Plate LXI.—Fig. 2.]

Arct. Zool. No. 356.—*Le Bihoreau,* Buff. vii, 435. 439, *tab.* 22. *Pl. Enl.* 758, 759. 899.—Lath. *Syn. v.* 3, *p.* 52, *No.* 13,—*p.* 53, Young, *called there the* Female.—Peale's *Museum, N.* 3728, —Young, *No.* 3729.

This species, though common to both continents, and known in Europe for many centuries, has been so erroneously described by all the European naturalists, whose work I have examined, as to require more than common notice in this place. For this purpose, an accurate figure of the male is given, and also another of what has, till now, been universally considered the female, with a detail of so much of their history as I am personally acquainted with.

The Night Heron arrives in Pennsylvania early in April, and immediately takes possession of his former breeding place, which is usually the most solitary, and deeply shaded, part of a cedar swamp. Groves of swamp-oak, in retired and inundated places, are also sometimes chosen; and the males not unfrequently select tall woods, on the banks of the river, to roost in during the day. These last regularly direct their course, about the beginning of evening twilight, towards the marshes, uttering, in a hoarse and hollow tone, the sound *Qua,* which by some has been compared to that produced by the retchings of a person attempting to vomit. At this hour, also, all the nurseries in the swamps are emptied of their inhabitants, who disperse about the marshes, and along the ditches and river shore, in quest of food. Some of these breeding places have been occupied every spring and summer, for time immemorial, by from

eighty to one hundred pairs of Qua-birds. In places where the cedars have been cut down for sale, the birds have merely removed to another quarter of the swamp; but when personally attacked, long teased and plundered, they have been known to remove from an ancient breeding place, in a body, no one knew where. Such was the case with one on the Delaware, near Thompson's point, ten or twelve miles below Philadelphia; which having been repeatedly attacked and plundered by a body of Crows, after many severe rencounters the Herons finally abandoned the place. Several of these breeding places occur among the red-cedars on the seabeach of Cape May, intermixed with those of the Little White Heron, Green Bittern, and Blue Heron. The nests are built entirely of sticks, in considerable quantites, with frequently three and four nests on the same tree. The eggs are generally four in number, measuring two inches and a quarter in length, by one and three quarters in thickness, and of a very pale light blue colour. The ground, or marsh, below is bespattered with their excrements, lying all around like whitewash, with feathers, broken egg-shells, old nests, and frequently small fish, which they have dropt by accident and neglected to pick up.

On entering the swamp, in the neighbourhood of one of these breeding places, the noise of the old and the young would almost induce one to suppose that two or three hundred Indians were choking or throttling each other. The instant an intruder is discovered, the whole rise in the air in silence, and remove to the tops of the trees in another part of the woods; while parties of from eight to ten make occasional circuits over the spot, to see what is going on. When the young are able, they climb to the highest part of the trees; but, knowing their inability, do not attempt to fly. Though it is probable that these nocturnal birds do not see well during the day, yet their faculty of hearing must be exquisite, as it is almost impossible, with all the precautions one can use, to penetrate near their residence, without being discovered. Several species of Hawks hover around, making an occasional sweep among the young; and the Bald

Eagle himself has been seen reconnoitring near the spot, probably with the same design.

Contrary to the generally received opinion, the males and females of these birds are so alike in colour, as scarcely to be distinguished from each other; both have also the long slender plumes that flow from the head. These facts I have exhibited by dissection on several subjects, to different literary gentlemen of my acquaintance, particularly to my venerable friend, Mr. William Bartram, to whom I have also often shown the young, represented at fig. 3. One of these last, which was kept for some time in the botanic garden of that gentleman, by its voice instantly betrayed its origin, to the satisfaction of all who examined it. These young certainly receive their full coloured plumage before the succeeding spring, as on their first arrival no birds are to be seen in the dress of fig. 3, but soon after they have bred, these become more numerous than the others. Early in October they migrate to the south. According to Buffon, these birds also inhabit Cayenne; and are found widely dispersed over Europe, Asia, and America. The European species, however, is certainly much smaller than the American; though, in other respects, corresponding exactly to it. Among a great number which I examined with attention, the following description was carefully taken from a common sized full grown male.

Length of the Night Heron two feet four inches, extent four feet; bill black, four inches and a quarter long, from the corners of the mouth to the tip; lores, or space between the eye and bill, a bare bluish white skin; eyelids also large and bare, of a deep purple blue; eye three quarters of an inch in diameter, the iris of a brilliant blood red, pupil black; crested crown and hind-head deep dark blue, glossed with green; front and line over the eye white; from the hind-head proceed three very narrow white tapering feathers, between eight and nine inches in length: the vanes of these are concave below, the upper one enclosing the next, and that again the lower; though separated by the hand, if the plumage be again shook several times, these long flowing plumes gradually enclose each other, appearing as one; these

the bird has the habit of erecting when angry or alarmed; the cheeks, neck, and whole lower parts, are white, tinctured with yellowish cream, and under the wings with very pale ash; back and scapulars of the same deep dark blue, glossed with green, as that of the crown; rump and tail coverts, as well as the whole wings and tail, very pale ash; legs and feet a pale yellow cream colour; inside of the middle claw serrated.

The female differed in nothing as to plumage from the male, but in the wings being of rather a deeper ash; having not only the dark deep green-blue crown and back, but also the long pendent white plumes from the hind-head. Each of the females contained a large cluster of eggs, of various sizes.

The young (fig. 3.) was shot soon after it had left the nest, and differed very little from those which had been taken from the trees, except in being somewhat larger. This measured twenty-one inches in length, and three feet in extent; the general colour above a very deep brown, streaked with reddish white, the spots of white on the back and wings being triangular, from the centre of the feather to the tip; quills deep dusky, marked on the tips with a spot of white; eye vivid orange; belly white, streaked with dusky, the feathers being pale dusky, streaked down their centres with white; legs and feet light green; inside of the middle claw slightly pectinated; body and wings exceedingly thin and limber; the down still stuck in slight tufts to the tips of some of the feathers.

These birds also breed in great numbers in the neighbourhood of New Orleans, for being in that city in the month of June, I frequently observed the Indians sitting in market with the dead and living young birds for sale; also numbers of Gray Owls (*Strix nebulosa*), and the White Ibis (*Tantalus albus*,) for which nice dainties I observed they generally found purchasers.

The food of the Night Heron or Qua-Bird, is chiefly composed of small-fish, which it takes by night. Those that I opened had a large expansion of the gullet immediately under the bill, that narrowed thence to the stomach, which is a large oblong pouch, and was filled with fish. The teeth of the pectinated claw were

thirty-five or forty in number, and as they contained particles of the down of the bird, showed evidently, from this circumstance, that they act the part of a comb, to rid the bird of vermin, in those parts which it cannot reach with its bill.

Note. In those specimens which I have procured in the breeding season, I have taken notice that the lores and orbits were of a bluish white; but in a female individual, which I shot in East Florida, in the month of March, these parts were of a delicate violet colour.

The Brown Bittern of Catesby, (Vol. 1, pl. 78) which has not a little confounded ornithologists, is undoubtedly the young of the Night Heron. Dr. Latham says of the former, "we believe it to be a female of the Green Heron.—They certainly differ," continues he, "as Brisson has described them; but by comparison, no one can fail of being of the opinion here advanced." If the worthy naturalist had had the same opportunities of comparing the two birds in question as we have had, he would have been as confident that they are not the same, as we are—*G. Ord.*

SPECIES 9. *ARDEA CANDIDISSIMA.*

SNOWY HERON.*

[Plate LXII.–Fig. 4.]

TURT. *Syst. p.* 380.—LATH. *Syn. v.* 3, *p.* 92, *No.* 61.—PEALE'S *Museum, No.* 3785.

THIS elegant species inhabits the seacoast of North America, from the isthmus of Darien to the gulf of St. Lawrence, and is, in the United States, a bird of passage; arriving from the south early in April, and leaving the middle states again in October. Its general appearance, resembling so much that of the Little Egret of Europe, has, I doubt not, imposed on some of the naturalists of that country, as I confess it did on me.† From a more careful comparison, however, of both birds, I am satisfied that they are two entirely different and distinct species. These differences consist in the large flowing crest, yellow feet, and singularly curled plumes of the back of the present; it is also nearly double the size of the European species.

The Snowy Heron seems particularly fond of the salt marshes during summer; seldom penetrating far inland. Its white plumage renders it a very conspicuous object, either while on wing, or while wading the meadows or marshes. Its food consists of those small crabs, usually called *fiddlers*, mud worms, snails, frogs and lizards. It also feeds on the seeds of some species of nymphæ, and of several other aquatic plants.

On the nineteenth of May, I visited an extensive *breeding place* of the Snowy Heron, among the red cedars of Sommer's beach, on the coast of Cape May. The situation was very sequestered, bounded on the land side by a fresh water marsh or pond,

* Named in the plate, by mistake, the *Little Egret.*

† "On the American continent, the Little Egret is met with at New York and Long island." Lath. v, 3, p. 90.

and sheltered from the Atlantic by ranges of sand-hills. The cedars, though not high, were so closely crowded together, as to render it difficult to penetrate through among them. Some trees contained three, others four, nests, built wholly of sticks. Each had in it three eggs of a pale greenish blue colour, and measuring an inch and three quarters in length, by an inch and a quarter in thickness. Forty or fifty of these eggs were cooked, and found to be well tasted; the white was of a bluish tint, and almost transparent, though boiled for a considerable time; the yelk very small in quantity. The birds rose in vast numbers, but without clamour, alighting on the tops of the trees around, and watching the result in silent anxiety. Among them were numbers of the Night Heron, and two or three Purple-headed Herons. Great quantities of egg shells lay scattered under the trees, occasioned by the depredations of the Crows, who were continually hovering about the place. On one of the nests I found the dead body of the bird itself, half devoured by the Hawks, Crows, or Gulls. She had probably perished in defence of her eggs.

The Snowy Heron is seen at all times, during summer, among the salt marshes, watching and searching for food; or passing, sometimes in flocks, from one part of the bay to the other. They often make excursions up the rivers and inlets; but return regularly, in the evening, to the red cedars on the beech, to roost. I found these birds on the Mississippi, early in June, as far up as fort Adams, roaming about among the creeks, and inundated woods.

The length of this species is two feet one inch; extent three feet two inches; the bill is four inches and a quarter long, and grooved; the space from the nostril to the eye orange yellow, the rest of the bill black; irides vivid orange; the whole plumage is of a snowy whiteness; the head is largely crested with loose unwebbed feathers, nearly four inches in length; another tuft of the same covers the breast; but the most distinguished ornament of this bird is a bunch of long silky plumes, proceeding from the shoulders, covering the whole back, and extending

beyond the tail: the shafts of these are six or seven inches long, extremely elastic, tapering to the extremities, and thinly set with long slender bending threads or fibres, easily agitated by the slightest motion of the air—these shafts curl upwards at the ends. When the bird is irritated, and erects those airy plumes, they have a very elegant appearance; the legs, and naked part of the thighs, are black; the feet bright yellow; claws black, the middle one pectinated.

The female can scarcely be distinguished by her plumage, having not only the crest, but all the ornaments of the male, though not quite so long and flowing.

The young birds of the first season are entirely destitute of the long plumes of the breast and back; but, as all those that were examined in spring were found crested and ornamented as above, they doubtless receive their full dress on the first moulting. Those shot in October measured twenty-two inches in length, by thirty-four in extent; the crest was beginning to form; the legs yellowish green, daubed with black; the feet greenish yellow; the lower mandible white at the base; the wings, when shut, nearly of a length with the tail, which is even at the end.

The little Egret, or European species, is said by Latham and Turton to be nearly *a foot* in length; Bewick observes, that it rarely exceeds a foot and a half; has a much shorter crest, with *two* long feathers; the feet are black; and the long plumage of the back, instead of turning up at the extremity, falls over the rump.

The young of both these birds are generally very fat, and esteemed by some people as excellent eating.

Note—Catesby represents the bill of this bird as red, and this error has been perpetuated by all succeeding ornithologists. The fact is, that the bills of young Herons are apt to assume a reddish tint after death, and this was evidently mistaken by Catesby for a permanent living colour; and represented as such

by an exaggeration common to almost all colourers of plates of Natural History. We have no hesitation in asserting that a Heron such as that figured by the author in question does not exist in the United States. That his Heron is indentical with ours there can be no doubt, and we are equally satisfied that his specimen was a bird of the first year. So common did we find this species along the coasts of the Carolinas, Georgia and East Florida, during the winter, that they were to be seen every hour of the day, and were almost as tame as domestic fowls. A specimen shot in East Florida was twenty-one inches in length; the upper mandible, and tip of the lower, were black, base of the latter flesh coloured, the remainder of bill yellow.

G. Ord.

SPECIES 10. *ARDEA AMERICANA.**

WHOOPING CRANE.

[Plate LXIV.—Fig. 3.]

Arct. Zool. No. 339.—CATESBY, I, 75.—LATH. III, *p.* 42.—*La Grue d'Amerique*, BRISS. V, *p.* 382.—*Pl. Enl.* 889.—PEALE'S *Museum, No.* 3704.†

THIS is the tallest and most stately species of all the feathered tribes of the United States; the watchful inhabitant of extensive salt marshes, desolate swamps, and open morasses, in the neighbourhood of the sea. Its migrations are regular, and of the most extensive kind, reaching from the shores and inundated tracts of South America to the arctic circle. In these immense periodical journeys they pass at such a prodigious height in the air as to be seldom observed. They have, however, their resting stages on the route to and from their usual breeding places, the regions of the north. A few sometimes make their appearance in the marshes of Cape May, in December, particularly on and near Egg island, where they are known by the name of *Storks*. The younger birds are easily distinguished from the rest by the brownness of their plumage. Some linger in these marshes the whole winter, setting out north about the time the ice breaks up. During their stay they wander along the marsh and muddy flats of the seashore in search of marine worms, sailing occasionally from place to place, with a low and heavy flight, a little above the surface; and have at such times a very formidable appearance. At times they utter a loud clear and piercing cry, which may be heard at the distance of two miles. They have also various modulations of this singular note, from

* This bird belongs to the genus *Grus* of Pallas.

† *Grus Americana*, ORD'S *ed.* vol. VIII, *p.* 20.

the peculiarity of which they derive their name. When wounded they attack the gunner, or his dog, with great resolution; and have been known to drive their sharp and formidable bill, at one stroke, through a man's hand.

During winter they are frequently seen in the low grounds and rice plantations of the southern states, in search of grain and insects. On the tenth of February I met with several near the Waccamau river, in South Carolina; I also saw a flock at the ponds near Louisville, Kentucky, on the twentieth of March. They are extremely shy and vigilant, so that it is with the greatest difficulty they can be shot. They sometimes rise in the air spirally to a great height, the mingled noise of their screaming, even when they are almost beyond the reach of sight, resembling that of a pack of hounds in full cry. On these occasions they fly around in large circles, as if reconnoitring the country to a vast extent for a fresh quarter to feed in. Their flesh is said to be well tasted, nowise savouring of fish. They swallow mice, moles, rats, &c. with great avidity. They build their nests on the ground, in tussocks of long grass, amidst solitary swamps, raise it to more than a foot in height, and lay two pale blue eggs, spotted with brown. These are much larger, and of a more lengthened form, than those of the common hen.

The Cranes are distinguished from the other families of their genus by the comparative baldness of their heads, the broad flag of plumage projecting over the tail, and in general by their superior size. They also differ in their internal organization from all the rest of the Heron tribe, particularly in the conformation of the windpipe, which enters the breast bone in a cavity fitted to receive it, and after several turns goes out again at the same place, and thence descends to the lungs. Unlike the Herons, they have not the inner side of the middle claw pectinated, and, in this species at least, the hind toe is short, scarcely reaching the ground.

The vast marshy flats of Siberia are inhabited by a Crane very much resembling the present, with the exception of the bill and

legs being red; like those of the present, the year old birds are said also to be tawny.

It is highly probable that the species described by naturalists as the Brown Crane (*Ardea Canadensis*), is nothing more than the young of the Whooping Crane,* their descriptions exactly corresponding with the latter. In a flock of six or eight, three or four are usually of that tawny or reddish brown tint on the back, scapulars and wing coverts, but are evidently yearlings of the Whooping Crane, and differ in nothing but in that and size from the others. They are generally five or six inches shorter, and the primaries are of a brownish cast.

The Whooping Crane is four feet six inches in length, from the point of the bill to the end of the tail, and when standing erect measures nearly five feet; the bill is six inches long, and an inch and a half in thickness, straight, extremely sharp, and of a yellowish brown colour; the irides are yellow; the forehead, whole crown and cheeks are covered with a warty skin thinly interspersed with black hairs; these become more thickly set towards the base of the bill; the hind head is of an ash colour; the rest of the plumage pure white, the primaries excepted, which are black; from the root of each wing rise numerous large flowing feathers projecting over the tail and tips of the wings; the uppermost of these are broad, drooping, and pointed at the extremities, some of them are also loosely webbed, their silky fibres curling inwards like those of the ostrich. They seem to occupy the place of the tertials. The legs and naked part of the thighs are black, very thick and strong; the hind toe seems rarely or never to reach the hard ground, though it may probably assist in preventing the bird from sinking too deep in the mire.

* This is an error into which our author was led in consequence of never having seen a specimen of the bird in question (*Ardea Canadensis*, Linn.—*Grus Freti Hudsonis*, Briss.) Peale's museum at present contains a fine specimen, which was brought by the naturalists attached to Major Long's exploring party, who ascended the Missouri in the year 1820. Bartram calls this Crane the *Grus pratensis*. It is known to travellers by the name of Sandhill Crane.

SPECIES 11. *ARDEA VIOLACEA.*

YELLOW-CROWNED HERON.

[Plate LXV.—Fig. 1.]

Linn. *Syst.* i, *p.* 238. 16.—Lath. *Syn.* iii, *p.* 80.—*Le Crabier de Bahama,* Briss. v, *p.* 481. 41.—*Crested Bittern,* Catesb. i, *pl.* 79.—*Le Crabier gris de fer,* Buff. vii, *p.* 399.—*Arct. Zool. No.* 352.—Peale's *Museum, No.* 3738.*

This is one of the nocturnal species of the Heron tribe, whose manners, place and mode of building its nest, resemble greatly those of the common Night Heron (*Ardea nycticorax;*) the form of its bill is also similar. The very imperfect figure and description of this species by Catesby, seems to have led the greater part of European ornithologists astray, who appear to have copied their accounts from that erroneous source, otherwise it is difficult to conceive why they should either have given it the name of *yellow-crowned,* or have described it as being only fifteen inches in length; since the crown of the perfect bird is pure white, and the whole length very near two feet. The name however, erroneous as it is, has been retained in the present account, for the purpose of more particularly pointing out its absurdity, and designating the species.

This bird inhabits the lower parts of South Carolina, Georgia, and Louisiana in the summer season; reposing during the day among low swampy woods, and feeding only in the night. It

* We add the following synonymes.—*Ardea violacea,* Lath. *Ind. Orn. p.* 690, *No.* 50.—*Ardea Cayanensis, Id. p.* 680, *No.* 17.—*Gen. Syn.* iii, *p.* 80. *No.* 46. —*Cayenne Night Heron, Id. p.* 56, *No.* 16.—*Bihoreau de Cayenne, Pl. Enl.* 899. —*Ardea violacea,* Gmel. *Syst,* i. *p.* 631, *No.* 16.—*Ardea Cayenensis, Id. p.* 626, *No.* 31.

builds in societies, making its nest with sticks among the branches of low trees, and lays four pale blue eggs. The species is not numerous in Carolina, which, with its solitary mode of life, makes this bird but little known there. It abounds on the Bahama islands, where it also breeds, and great numbers of the young, as we are told, are yearly taken for the table, being accounted in that quarter excellent eating. This bird also extends its migrations into Virginia, and even farther north; one of them having been shot a few years ago on the borders of Schuylkill below Philadelphia.

The food of this species consists of small fish, crabs and lizards, particularly the former; it also appears to have a strong attachment to the neighbourhood of the ocean.

The Yellow-crowned Heron is twenty-two inches in length, from the point of the bill to the end of the tail; the long flowing plumes of the back extend four inches farther; breadth from tip to tip of the expanded wings thirty-four inches; bill black, stout, and about four inches in length, the upper mandible grooved exactly like that of the common Night Heron; lores pale green; irides fiery red; head and part of the neck black, marked on each cheek with an oblong spot of white; crested crown and upper part of the head white, ending in two long narrow tapering plumes of pure white, more than seven inches long; under these are a few others of a blackish colour; rest of the neck and whole lower parts fine ash, somewhat whitish on that part of the neck where it joins the black; upper parts a dark ash, each feather streaked broadly down the centre with black, and bordered with white; wing quills deep slate, edged finely with white; tail even at the end, and of the same ash colour; wing coverts deep slate, broadly edged with pale cream; from each shoulder proceed a number of long loosely webbed tapering feathers, of an ash colour, streaked broadly down the middle with black, and extending four inches or more beyond the tips of the wings; legs and feet yellow; middle claw pectinated. Male and female, as in the common Night Heron, alike in plumage.

I strongly suspect that the species called by naturalists the

Cayenne Night Heron (*Ardea Cayanensis,*) is nothing more than the present, with which, according to their descriptions, it seems to agree almost exactly.

GENUS 70. TANTALUS. IBIS.

SPECIES 1. *TANTALUS LOCULATOR.*

WOOD IBIS.

[Plate LXVI.—Fig. 1.]

Le grand Courli d'Amerique, Briss. v, *p.* 358. 8.—*Couricaca*, Buff. vii, *p.* 276. *Pl. Enl.* 868.—Catesb. i, 81.—*Arct. Zool. No.* 360.—Lath. *Syn.* iii, *p.* 104.—Peale's *Museum*, *No.* 3862.

The Wood Ibis inhabits the lower parts of Louisiana, Carolina, and Georgia; is very common in Florida, and extends as far south as Cayenne, Brazil, and various parts of South America. In the United States it is migratory; but has never, to my knowledge, been found to the north of Virginia. Its favourite haunts are watery savannahs and inland swamps, where it feeds on fish and reptiles. The French inhabitants of Louisiana esteem it good eating.

With the particular manners of this species I am not personally acquainted; but the following characteristic traits are given of by it Mr. William Bartram, who had the best opportunities of noting them.

"This solitary bird," he obeserves, "does not associate in flocks; but is generally seen slone, commonly near the banks of great rivers, in vast marshes or meadows, especially such as are covered by inundations, and also in the vast deserted rice plantations; he stands alone, on the topmost limb of tall dead cypress trees, his neck contracted or drawn in upon his shoulders, and his beak resting like a long sithe upon his breast; in this pensive posture, and solitary situation, they look extremely grave, sorrowful and melancholy, as if in the deepest thought. They are never seen on the seacoast, and yet are never found at a

great distance from it. They feed on serpents, young alligators, frogs, and other reptiles,"*

The figure of this bird given in the plate was drawn from a very fine specimen, sent from Georgia by Stephen Elliott, esq. of Beaufort, South Carolina; its size and markings were as follow.

Length three feet two inches; bill nearly nine inches long, straight for half its length, thence curving downwards to the extremity, and full two inches thick at the base, where it rises high in the head, the whole of a brownish horn colour; the under mandible fits into the upper in its whole length, and both are very sharp edged; face and naked head and part of the neck dull greenish blue, wrinkled; eye large, seated high in the head; irides dark red; under the lower jaw is a loose corrugated skin, or pouch, capable of containing about half a pint; whole body, neck and lower parts white; quills dark glossy green and purple; tail about two inches shorter than the wings, even at the end, and of a deep and rich violet; legs and naked thighs dusky green; feet and toes yellowish sprinkled with black; feet almost semi-palmated and bordered to the claws with a narrow membrane; some of the greater wing coverts are black at the root, and shafted with black; plumage on the upper ridge of the neck generally worn, as in the present specimen, with rubbing on the back, while in its common position of resting its bill on its breast, in the manner of the White Ibis (see fig. 3).

The female has only the head and chin naked; both are subject to considerable changes of colour when young; the body being found sometimes blackish above, the belly cinereous, and spots of black on the wing coverts; all of which, as the birds advance in age, gradually disappear, and leave the plumage of the body, &c. as has been described.

* Travels, &c. p. 150.

SPECIES 2. TANTALUS RUBER.

SCARLET IBIS.

[Plate LXVI.—Fig. 2.]

Le Courli rouge du Bresil, Briss. v, *p.* 344, 12, *fig.* 1, 2.—Buff. viii, *p.* 35.—*Red Curlew*, Catesby, i, 84.—Lath. iii, *p.* 106.—*Arct. Zool*, *No.* 361.—Peale's *Museum*, *No.* 3864, 3865 Female.*

This beautiful bird is found in the most southern parts of Carolina; also in Georgia and Florida, chiefly about the seashore and its vicinity. In most parts of America within the tropics, and in almost all the West India islands it is said to be common; also in the Bahamas. Of its manners little more has been collected than that it frequents the borders of the sea and shores of the neighbouring rivers, feeding on small fry, shell fish, sea worms and small crabs. It is said frequently to perch on trees, sometimes in large flocks; but to lay its eggs on the ground on a bed of leaves. The eggs are described as being of a greenish colour; the young when hatched black, soon after gray, and before they are able to fly white, continuing gradually to assume their red colour until the third year, when the scarlet plumage is complete. It is also said that they usually keep in flocks, the young and old birds separately. They have frequently been domesticated. One of them which lived for some time in the Museum of this city, was dexterous at catching flies, and most usually walked about, on that pursuit, in the position in which it is represented in the plate.

We add the following synonymes:—*Tantalus Ruber*, Lath. *Ind. Orn.* p. 703, No. 2.—*T. fuscus*, *Id.* p. 705, No. 8.—Gmel. *Syst.* i, p. 651, No. 5, No. 7.—*Le Courly brun du Bresil*, Briss. v, p. 341.—*Brown Curlew*, Catesby, i, 83, Young.—*Courly rouge du Bresil, de l'age de deux ans*, *Pl. Enl.* 80.—*Id. de l'age de trois ans*, 81.

The Scarlet Ibis measures twenty-three inches in length, and thirty-seven in extent; the bill is five inches long, thick, and somewhat of a square form at the base, gradually bent downwards and sharply ridged, of a black colour, except near the base, where it inclines to red; irides dark hazel; the naked face is finely wrinkled, and of a pale red; chin also bare and wrinkled for about an inch; whole plumage a rich glowing scarlet, except about three inches of the extremities of the four outer quill feathers, which are of a deep steel blue; legs and naked part of the thighs pale red, the three anterior toes united by a membrane as far as the first joint.

Whether the female differs in the colour of her plumage from the male, or what changes both undergo during the first and second years, I am unable to say from personal observation. Being a scarce species with us, and only found on our most remote southern shores, a sufficient number of specimens have not been procured to enable me to settle this matter with sufficient certainty.

Note. It would appear that this species inhabits the western coast of America. In the Appendix to the History of Lewis and Clark's Expedition, Vol. II, p. 514, under date of March 7, the Journalist says, "A bird of a scarlet colour, as large as a common pheasant, with a long tail, has returned; one of them was seen today near the fort." As all long legged birds fly with their legs in a horizontal position, the legs of that above mentioned must have been mistaken for a tail.

G. Ord.

SPECIES 3. *TANTALUS ALBUS.*

WHITE IBIS.

[Plate LXVI.—Fig. 3.]

Le Courli blanc du Bresil, Briss. v, *p.* 339, 10.—Buff. viii, *p.* 41. *Courly blanc d'Amerique, Pl. Enl.* 915.—*White Curlew,* Catesby, i, *pl.* 82.—Lath. *Syn.* iii, *p.* 111, *No.* 9.—*Arct. Zool. No.* 363.*

This species bears in every respect, except that of colour, so strong a resemblance to the preceding, that I have been almost induced to believe it the same, in its white or imperfect stage of colour. The length and form of the bill, the size, conformation, as well as colour of the legs, the general length and breadth, and even the steel blue on the four outer quill feathers, are exactly alike in both. These suggestions, however, are not made with any certainty of its being the same; but as circumstances which may lead to a more precise examination of the subject hereafter.

I found this species pretty numerous on the borders of lake Pontchartrain, near New Orleans, in the month of June, and also observed the Indians sitting in market with strings of them for sale. I met with them again on the low keys or islands off the peninsula of Florida. Mr. Bartram observes that "they fly in large flocks or squadrons, evening and morning, to and from their feeding places or roosts, and are usually called Spanish Curlews. They feed chiefly on cray fish, whose cells they probe, and with their strong pinching bills drag them out." The low islands above mentioned abound with these creatures and small crabs, the ground in some places seeming alive with them, so that the rattling of their shells against one another was in-

* *Tantalus albus,* Lath. *Ind. Orn. p.* 705, *No.* 9.—Gmel. *Syst. p.* 651. *No.* 6.

cessant. My venerable friend, in his observations on these birds adds, "It is a pleasing sight at times of high winds, and heavy thunder storms, to observe the numerous squadrons of these Spanish Curlews, driving to and fro, turning and tacking about high up in the air, when by their various evolutions in the different and opposite currents of the wind, high in the clouds, their silvery white plumage gleams and sparkles like the brightest crystal, reflecting the sunbeams that dart upon them between the dark clouds."

The White Ibis is twenty-three inches long, and thirty-seven inches in extent; bill formed exactly like that of the scarlet species, of a pale red, blackish towards the point; face a reddish flesh colour and finely wrinkled; irides whitish; whole plumage pure white, except about four inches of the tips of the four outer quill feathers, which are of a deep and glossy steel blue; legs and feet pale red, webbed to the first joint.

These birds I frequently observed standing on the dead limbs of trees, and on the shore, resting on one leg, their body in an almost perpendicular position, as represented in the figure, the head and bill resting on the breast. This appears to be its most common mode of resting, and perhaps sleeping, as in all those which I examined the plumage on the upper ridge of the neck and upper part of the back, was evidently worn by this habit. The same is equally observable on the neck and back of the Wood Ibis.

The present species rarely extends its visits north of Carolina, and even in that state is only seen for a few weeks towards the end of summer. In Florida they are common; but seldom remove to any great distance from the sea.

GENUS 71. NUMENIUS. CURLEW.

SPECIES 1. *N. LONGIROSTRIS.*

LONG-BILLED CURLEW.

[Plate LXIV.—Fig. 4.]

PEALE'S *Museum*, *No.* 3910.

THIS American species has been considered by the naturalists of Europe to be a mere *variety* of their own, notwithstanding its difference of colour, and superior length of bill. These differences not being accidental, or found in a few individuals, but common to all, and none being found in America corresponding with that of Europe, we do not hesitate to consider the present as a distinct species, peculiar to this country.

Like the preceding, this bird is an inhabitant of marshes in the vicinity of the sea. It is also found in the interior; where, from its long bill and loud whistling note, it is generally known.

The Curlews appear in the salt marshes of New Jersey about the middle of May, on their way to the north; and in September, on their return from their breeding places. Their food consists chiefly of small crabs, which they are very dexterous at probing for, and pulling out of the holes with their long bills; they also feed on those small sea snails so abundant in the marshes, and on various worms and insects. They are likewise fond of bramble berries, frequenting the fields and uplands in search of this fruit, on which they get very fat, and are then tender and good eating, altogether free from the sedgy taste with which their flesh is usually tainted while they feed in the salt marshes.

The Curlews fly high, generally in a wedge-like form, somewhat resembling certain Ducks; occasionally uttering their loud whistling note, by a dexterous imitation of which a whole flock may sometimes be enticed within gunshot, while the cries of

the wounded are sure to detain them until the gunner has made repeated shots and great havoc among them.

This species is said to breed in Labrador, and in the neighbourhood of Hudson's Bay. A few instances have been known of one or two pair remaining in the salt marshes of Cape May all summer. A person of respectability informed me, that he once started a Curlew from her nest, which was composed of a little dry grass, and contained four eggs, very much resembling in size and colour those of the Mud Hen, or Clapper Rail. This was in the month of July. Cases of this kind are so rare, that the northern regions must be considered as the general breeding place of this species.

The Long-billed Curlew is twenty-five inches in length, and three feet three inches in extent, and when in good order weighs about thirty ounces; but individuals differ greatly in this respect; the bill is eight inches long, nearly straight for half its length, thence curving considerably downwards to its extremity, where it ends in an obtuse knob that overhangs the lower mandible; the colour black, except towards the base of the lower, where it is of a pale flesh colour; tongue extremely short, differing in this from the Snipe; eye dark; the general colour of the plumage above is black, spotted and barred along the edge of each feather with pale brown; chin, line over the eye and round the same, pale brownish white; neck reddish brown, streaked with black; spots on the breast more sparingly dispersed; belly, thighs and vent pale plain rufous, without any spots; primaries black on the outer edges, pale brown on the inner, and barred with black; shaft of the outer one snowy; rest of the wing pale reddish brown, elegantly barred with undulating lines of black; tail slightly rounded, of an ashy brown, beautifully marked with herring-bones of black; legs and naked thighs very pale light blue or lead colour, the middle toe connected with the two outer ones as far as the first joint by a membrane, and bordered along the sides with a thick warty edge; lining of the wing dark rufous, approaching a chestnut, and thinly spotted with black. Male and female alike in plumage. The bill continues to grow

in length until the second season, when the bird receives its perfect plumage. The stomach of this species is lined with an extremely thick skin, feeling to the touch like the rough hardened palm of a sailor or blacksmith. The intestines are very tender, measuring usually about three feet in length, and as thick as a Swan's quill. On the front, under the skin, there are two thick callosities, which border the upper side of the eye, lying close to the skull. These are common, I believe, to most of the *Tringa* and *Scolopax* tribes, and are probably designed to protect the skull from injury while the bird is probing and searching in the sand and mud.

Note. This species was observed by Lewis and Clarke as high up as the sources of the Missouri. On the twenty-second June they found the females were sitting: the eggs, which are of a pale blue, with black specks, were laid upon the bare ground.

Hist. of the Exped. vol. 1, *p.* 279, 8*vo.*

*SPECIES 2. N. BOREALIS.**

ESQUIMAUX CURLEW.

[Plate LVI.—Fig. 1.]

Arct. Zool. p. 461, *No.* 364.—Lath. iii.—Turt. *Syst. p.* 392.—Peale's *Museum*, *No.* 4003.

In prosecuting our researches among the feathered tribes of this extensive country, we are at length led to the shores of the ocean, where a numerous and varied multitude, subsisting on the gleanings of that vast magazine of nature, invite our attention; and from their singularities and numbers, promise both amusement and instruction. These we shall, as usual, introduce in the order we chance to meet with them in their native haunts. Individuals of various tribes, thus promiscuously grouped together, the peculiarities of each will appear more conspicuous and striking, and the detail of their histories less formal as well as more interesting.

The Esquimaux Curlew, or as it is called by our gunners on the seacoast, the short-billed Curlew, is peculiar to the new continent. Mr. Pennant, indeed, conceives it to be a mere variety of the English Whimbrel (*S. Phæopus*); but among the great numbers of these birds which I have myself shot and examined, I have never yet met with one corresponding to the descriptions given of the *Whimbrel*, the colours and markings being different, the bill much more bent, and nearly an inch and a half longer; and the manners in certain particulars very different: these reasons have determined its claim to that of an independant species.

The Short-billed Curlew arrives in large flocks on the seacoast of New Jersey early in May from the south; frequents the

* Wilson erroneously arranged this in the following Genus, *Scolopax*.

salt marshes, muddy shores and inlets, feeding on small worms and minute shell-fish. They are most commonly seen on mud flats at low water, in company with various other waders; and at high water roam along the marshes. They fly high, and with great rapidity. A few are seen in June, and as late as the beginning of July, when they generally move off towards the north. Their appearance on these occasions is very interesting: they collect together from the marshes as if by premeditated design, rise to a great height in the air, usually about an hour before sunset, and forming in one vast line, keep up a constant whistling on their march to the north, as if conversing with one another to render the journey more agreeable. Their flight is then more slow and regular, that the feeblest may keep up with the line of march, while the glittering of their beautifully speckled wings, sparkling in the sun, produces altogether a very pleasing spectacle.

In the month of June, while the dew-berries are ripe, these birds sometimes frequent the fields in company with the Long-billed Curlews, where brambles abound, soon get very fat, and are at that time excellent eating. Those who wish to shoot them, fix up a shelter of brushwood in the middle of the field, and by that means kill great numbers. In the early part of spring, and indeed during the whole time that they frequent the marshes, feeding on shell-fish, they are much less esteemed for the table.

Pennant informs us, that they were seen in flocks innumerable on the hills about Chatteux bay, on the Labrador coast, from August the ninth to September sixth, when they all disappeared, being on their way from their northern breeding place. —He adds, "they kept on the open grounds, fed on the *empetrum nigrum*, and were very fat and delicious." They arrive at Hudson's Bay in April, or early in May; pair and breed to the north of Albany fort among the woods, return in August to the marshes, and all disappear in September.* About this time they return in accumulated numbers to the shores of New Jersey, whence they finally depart for the south early in November.

* Phil. Trans. LXII, 411.

The Esquimaux Curlew is eighteen inches long, and thirty-two inches in extent; the bill, which is four inches and a half long, is black towards the point, and a pale purplish flesh colour near the base; upper part of the head dark brown, divided by a narrow stripe of brownish white; over each eye extends a broad line of pale drab; iris dark coloured; hind part of the neck streaked with dark brown, fore part, and whole breast, very pale brown; upper part of the body pale drab, centred and barred with dark brown, and edged with spots of white on the exterior vanes; three first primaries black, with white shafts; rump and tail-coverts barred with dark brown; belly white; vent the same, marked with zigzag lines of brown; whole lining of the wing beautifully barred with brown on a dark cream ground; legs and naked thighs a pale lead colour.

The figure of this bird, and of all the rest in the same plate, are reduced to exactly one-half the size of life.

Note.—Mr. Ord. in his reprint of the 8th. vol. expresses his doubts of this species being the Esquimaux Curlew (*N. borealis*) of Dr. Latham; as this ornithologist states his bird to be only thirteen inches in length, and in breadth twenty-one; and the bill two inches in length.

Prince Musignano, in his observations on the nomenclature of Wilson's Ornithology, states that he has ascertained the *N. borealis*, LATH. to be a distinct species, and promises to figure it in his American Ornithology. He considers Wilson's bird (*N. borealis*) to be the *N. Hudsonicus* of Latham.

GENUS 72. SCOLOPAX. SNIPE.

SPECIES 1. *SCOLOPAX FEDOA.**

GREAT MARBLED GODWIT.

[Plate LVI.—Fig. 4.—*Female.*]

Arct. Zool. p. 456, *No.* 371.—*La Barge rousse de Baie de Hudson,* Buff. vii, 507.—Peale's *Museum*, *No.* 4019.†

This is another transient visitant of our seacoasts in spring and autumn, to and from its breeding place in the north. Our gunners call it the *Straight-billed Curlew*, and sometimes the *Red Curlew.*‡ It is a shy, cautious, and watchful bird; yet so strongly are they attached to each other, that on wounding one in a flock, the rest are immediately arrested in their flight, making so many circuits over the spot where it lies fluttering and screaming, that the sportsman often makes great destruction among them. Like the Curlew, they may also be enticed within shot, by imitating their call or whistle; but can seldom be approached without some such manœuvre. They are much less numerous than the Short-billed Curlews, with whom, however, they not unfrequently associate. They are found among the salt marshes in May, and for some time in June, and also on their return in October and November; at which last season they are usually fat, and in high esteem for the table.

The female of this bird having been described by several writers as a distinct species from the male, it has been thought proper to figure the former; the chief difference consists in the

* This bird belongs to the genus *Limosa* of Brisson.

† *Scolopax Fedoa*, Linn. *Syst. ed.* 10, *p.* 146, *No.* 8. *S. hæmastica? Id. p.* 147, *No.* 14.—Edwards, *pl.* 137, 138.—*Limosa rufa*, Briss. v, *p.* 281, *pl.* 25, *fig.* 1.

‡ It is better known under the name of *Merline.*

undulating bars of black with which the breast of the male is marked, and which are wanting in the female.

The male of the Great Marbled Godwit is nineteen inches long, and thirty-four inches in extent; the bill is nearly six inches in length, a little turned up towards the extremity, where it is black, the base is of a pale purplish flesh colour; chin and upper part of the throat whitish; head and neck mottled with dusky brown and black on a ferruginous ground; breast barred with wavy lines of black; back and scapulars black, marbled with pale brown; rump and tail-coverts of a very light brown, barred with dark brown; tail even; except the two middle feathers, which are a little the longest; wings pale ferruginous, elegantly marbled with dark brown, the four first primaries black on the outer edge; whole lining and lower parts of the wings bright ferruginous; belly and vent light rust colour, with a tinge of lake.

The female differs in wanting the bars of black on the breast. The bill does not acquire its full length before the third year.

About fifty different species of the *Scolopax* genus are enumerated by naturalists. These are again by some separated into three classes or sub-genera; *viz.* the straight-billed, or Snipes; those with bills bent downwards, or the Curlews; and those whose bills are slightly turned upwards, or Godwits. The whole are a shy, timid and solitary tribe, frequenting those vast marshes, swamps and morasses, that frequently prevail in the vicinity of the ocean, and on the borders of large rivers. They are also generally migratory, on account of the periodical freezing of those places in the northern regions where they procure their food. The Godwits are particularly fond of salt marshes; and are rarely found in countries remote from the sea.

SPECIES 2. SCOLOPAX MINOR.

WOODCOCK.

[Plate XLVIII.—Fig. 2.]

Arct. Zool. p. 463, *No.* 365.—Turt. *Syst.* 396.*

This bird, like the preceding,† is universally known to our sportsmen. It arrives in Pennsylvania early in March, sometimes sooner; and I doubt not but in mild winters some few remain with us the whole of that season. During the day, they keep to the woods and thickets, and at the approach of evening seek the springs, and open watery places, to feed in. They soon disperse themselves over the country to breed. About the beginning of July, particularly in long continued hot weather, they descend to the marshy shores of our large rivers, their favourite springs and watery recesses, inland, being chiefly dried up. To the former of these retreats they are pursued by the merciless sportsman, flushed by dogs, and shot down in great numbers. This species of amusement, when eagerly followed, is still more laborious and fatiguing than that of Snipe-Shooting; and from the nature of the ground, or cripple as it is usually called, *viz.* deep mire, intersected with old logs, which are covered and hid from sight by high reeds, weeds and alder bushes, the best dogs are soon tired out; and it is customary with sportsmen, who regularly pursue this diversion, to have two sets of dogs, to relieve each other alternately.

The Woodcock usually begins to lay in April. The nest is placed on the ground, in a retired part of the woods, frequently at the root of an old stump. It is formed of a few withered leaves, and stalks of grass, laid with very little art. The female lays

* *Scolopax minor*, Lath. *Ind. Orn.* p. 714, No. 2. *Gen. Syn.* 3, *p.* 131.

† That is, the common Rail, which precedes the Woodcock in the original edition.

four, sometimes five, eggs, about an inch and a half long, and an inch or rather more in diameter, tapering suddenly to the small end. These are of a dun clay colour, thickly marked with spots of brown, particularly at the great end, and interspersed with others of a very pale purple. The nest of the Woodcock has, in several instances that have come to my knowledge, been found with eggs in February; but its usual time of beginning to lay is early in April. In July, August and September, they are considered in good order for shooting.

The Woodcock is properly a nocturnal bird, feeding chiefly at night, and seldom stirring about till after sunset. At such times, as well as in the early part of the morning, particularly in spring, he rises by a kind of spiral course, to a considerable height in the air, uttering at times a sudden *quack*, till having gained his utmost height, he hovers around in a wild irregular manner, making a sort of murmuring sound; then descends with rapidity as he rose. When uttering his common note on the ground, he seems to do it with difficulty, throwing his head towards the earth, and frequently jetting up his tail. These notes and manœuvres are most usual in spring, and are the call of the male to his favourite female. Their food consists of various larvæ, and other aquatic worms, for which, during the evening, they are almost continually turning over the leaves with their bill, or searching in the bogs. Their flesh is reckoned delicious, and prized highly. They remain with us till late in autumn; and on the falling of the first snows, descend from the ranges of the Alleghany, to the lower parts of the country, in great numbers; soon after which, *viz.* in November, they move off to the south.

This bird, in its general figure and manners, greatly resembles the Woodcock of Europe, but is considerably less, and very differently marked below, being an entirely distinct species. A few traits will clearly point out their differences. The lower parts of the European Woodcock are thickly barred with dusky waved lines, on a yellowish white ground. The present species has those parts of a bright ferruginous. The male of the Ame-

rican species weighs from five to six ounces, the female eight: the European twelve. The European Woodcock makes its first appearance in Britain in October and November, that country being in fact only its winter quarters; for early in March they move off to the northern parts of the continent to breed. The American species, on the contrary, winters in countries south of the United States, arrives here early in March, extends its migrations as far, at least, as the river St. Lawrence, breeds in all the intermediate places, and retires again to the south on the approach of winter. The one migrates from the torrid to the temperate regions; the other from the temperate to the arctic. The two birds, therefore, notwithstanding their names are the same, differ not only in size and markings, but also in native climate. Hence the absurdity of those who would persuade us, that the Woodcock of America crosses the Atlantic to Europe, and *vice versa*. These observations have been thought necessary, from the respectability of some of our own writers, who seem to have adopted this opinion.

How far to the north our Woodcock is found, I am unable to say. It is not mentioned as a bird of Hudson's bay; and being altogether unknown in the northern parts of Europe, it is very probable that its migrations do not extend to a very high latitude; for it may be laid down as a general rule, that those birds which migrate to the arctic regions in either continent, are very often common to both. The head of the Woodcock is of singular conformation, large, somewhat triangular, and the eye fixed at a remarkable distance from the bill, and high in the head. This construction was necessary to give a greater range of vision, and to secure the eye from injury while the owner is searching in the mire. The flight of the Woodcock is slow. When flushed at any time in the woods, he rises to the height of the bushes or under wood, and almost instantly drops behind them again at a short distance, generally running off for several yards as soon as he touches the ground. The notion that there are two species of Wooodcock in this country probably originated from

the great difference of size between the male and female, the latter being considerably the larger.

The male Woodcock is ten inches and a half long, and sixteen inches in extent; bill a brownish flesh colour, black towards the tip, the upper mandible ending in a slight nob, that projects about one-tenth of an inch beyond the lower,* each grooved, and in length somewhat more than two inches and a half; forehead, line over the eye, and whole lower parts, reddish tawny; sides of the neck inclining to ash; between the eye and bill a slight streak of dark brown; crown, from the forepart of the eye backwards, black, crossed by three narrow bands of brownish white; cheeks marked with a bar of black, variegated with light brown; edges of the back, and of the scapulars, pale bluish white; back and scapulars deep black, each feather tipt or marbled with light brown and bright ferruginous, with numerous fine zig-zag lines of black crossing the lighter parts; quills plain dusky brown; tail black, each feather marked along the outer edge with small spots of pale brown, and ending in narrow tips of a pale drab colour above, and silvery white below; lining of the wing bright rust; legs and feet a pale reddish flesh colour; eye very full and black, seated high, and very far back in the head; weight five ounces and a half, sometimes six.

The female is twelve inches long, and eighteen in extent; weighs eight ounces; and differs also in having the bill very near three inches in length; the black on the back is not quite so intense; and the sides under the wings are slightly barred with dusky.

The young Woodcocks, of a week or ten days old, are covered with down of a brownish white colour, and are marked from the bill, along the crown to the hind-head, with a broad

*Mr. Pennant, (Arct. Zool. p. 463.) in describing the American Woodcock, says, that the lower mandible is much shorter than the upper. From the appearance of his figure, it is evident that the specimen from which that and his description were taken, had lost nearly half an inch from the lower mandible, probably broken off by accident. Turton and others have repeated this mistake.

stripe of deep brown; another line of the same passes through the eyes to the hind-head, curving under the eye; from the back to the rudiments of the tail runs another of the same tint, and also on the sides under the wings; the throat and breast are considerably tinged with rufous; and the quills, at this age, are just bursting from their light blue sheaths, and appear marbled as in the old birds; the legs and bill are of a pale purplish ash colour, the latter about an inch long. When taken, they utter a long, clear, but feeble, *peep*, not louder than that of a mouse. They are far inferior to young Partridges in running and skulking; and should the female unfortunately be killed, may easily be taken on the spot.

SPECIES 3. *SCOLOPAX GALLINAGO.**

SNIPE.

[Plate XLVII.—Fig. 1.]

This bird is well known to our sportsmen; and, if not the same, has a very near resemblance of the common Snipe of Europe. It is usually known by the name of the *English Snipe*, to distinguish it from the Woodcock, and from several others of the same genus. It arrives in Pennsylvania about the tenth of March, and remains in the low grounds for several weeks; the greater part then move off to the north, and to the higher inland districts to breed. A few are occasionally found, and consequently breed, in our low marshes during the summer. When they first arrive, they are usually lean; but when in good order are accounted excellent eating. They are, perhaps, the most difficult to shoot of all our birds, as they fly in sudden zig-zag lines, and very rapidly. Great numbers of these birds winter in the rice grounds of the southern states, where, in the month of February, they appeared to be much tamer than they are usually here, as I frequently observed them running about among the springs and watery thickets. I was told by the inhabitants, that they generally disappeared early in the spring. On the twentieth of March I found these birds extremely numerous on the borders of the ponds near Louisville, Kentucky; and also in the neighbourhood of Lexington in the same state, as late as

* In consequence of Wilson's doubts, whether this bird was the *S. Gallinago* or not, he gave no synonymes. The Prince of Musignano, convinced that it was a distinct species, adopted for it the name of *Brehmii*, under the impression that it was identical with the Snipe lately discovered in Germany, and described under the above mentioned name. It appears to be neither the *Gallinago* nor the *Brehmii*, but a bird peculiar to our country: In Mr. Ord's supplement to Wilson's Ornithology, it is classed under the name of *Scolopax delicata*.

the tenth of April. I was told by several people, that they are abundant in the Illinois country, up as far as lake Michigan. They are but seldom seen in Pennsylvania during the summer, but are occasionally met with in considerable numbers on their return in autumn, along the whole eastern side of the Alleghany, from the sea to the mountains. They have the same soaring irregular flight in the air in gloomy weather as the Snipe of Europe; the same bleating note, and occasional rapid descent; spring from the marshes with the like feeble *squeak;* and in every respect resemble the common Snipe of Britain, except in being about an inch less; and in having sixteen feathers in the tail instead of fourteen, the number said by Bewick to be in that of Europe. From these circumstances, we must either conclude this to be a different species, or partially changed by difference of climate; the former appears to me the more probable opinion of the two.

These birds abound in the meadows, and low grounds, along our large rivers, particularly those that border the Schuylkill and Delaware, from the tenth of March to the middle of April, and sometimes later, and are eagerly sought after by many of our gunners. The nature of the grounds, however, which these birds frequent, the coldness of the season, and peculiar shyness and agility of the game, render this amusement attractive only to the most dexterous, active, and eager, of our sportsmen.

The Snipe is eleven inches long, and seventeen inches in extent; the bill is more than two inches and a half long, fluted lengthwise, of a brown colour, and black towards the tip, where it is very smooth while the bird is alive, but soon after it is killed becomes dimpled like the end of a thimble; crown black, divided by an irregular line of pale brown; another broader one of the same tint passes over each eye; from the bill to the eye there is a narrow dusky line; neck, and upper part of the breast, pale brown, variegated with touches of white and dusky; chin pale; back and scapulars deep velvetty black, the latter elegantly marbled with waving lines of ferruginous, and broadly edged exteriorly with white; wings plain dusky, all the feathers,

as well as those of the coverts, tipt with white; shoulder of the wing deep dusky brown, exterior quill edged with white; tail-coverts long, reaching within three-quarters of an inch of the tip, and of a pale rust colour spotted with black; tail rounded, deep black, ending in a bar of bright ferruginous, crossed with a narrow waving line of black, and tipt with whitish; belly pure white; sides barred with dusky; legs and feet a very pale ashy green; sometimes the whole thighs, and sides of the vent, are barred with dusky and white, as in the figure in the plate.

The female differs in being more obscure in her colours; the white on the back being less pure, and the black not so deep.

SPECIES 4. *SCOLOPAX NOVEBORACENSIS.*

RED-BREASTED SNIPE.

[Plate LVIII.—Fig. 1.]

Arct. Zool. p. 464, *No.* 368.—PEALE'S *Museum, No.* 3932.*

THIS bird has a considerable resemblance to the common Snipe, not only in its general form, size and colours, but likewise in the excellence of its flesh, which is in high estimation. It differs, however, greatly from the common Snipe in its manners, and in many other peculiarities, a few of which, as far as I have myself observed, may be sketched as follows. The Red-breasted Snipe arrives on the seacoast of New Jersey early in April; is seldom or never seen inland: early in May it proceeds to the north to breed, and returns by the latter part of July, or beginning of August. During its stay here it flies in flocks, sometimes very high, and has then a loud and shrill whistle, making many evolutions over the marshes; forming, dividing, and reuniting. They sometimes settle in such numbers, and so close together, that eighty-five have been shot at one discharge of a musket. They spring from the marches with a loud twirling whistle, generally rising high, and making several circuitous manœuvres in air, before they descend. They frequent the sand-bars, and mud-flats, at low water, in search of food; and being less suspicious of a boat than of a person on shore, are easily approached by this medium, and shot down in great numbers. They usually keep by themselves, being very numerous; are in excellent order for the table in September; and on the approach of winter retire to the south.

We add the following Synonymes:—*Scolopax noveboracensis*, LATH. *Ind. Orn. p.* 723, *No.* 32.—*S. grisea, id. p.* 724. *No.* 33. *Temm. Man. d' Orn. p.* 679. GMEL. *Syst. p.* 658, *No.* 27, adult in winter plumage. *S. noveboracencis, Id. p.* 658, *No.* 28, adult in summer plumage.

I have frequently amused myself with the various action of these birds. They fly very rapidly, sometimes wheeling, coursing and doubling along the surface of the marshes; then shooting high in air, there separating; and forming in various bodies, uttering a kind of quivering whistle. Among many which I opened in May, were several females, that had very little rufous below, and the backs were also much lighter, and less marbled with ferruginous. The eggs contained in their ovaries were some of them as large as garden peas. Their stomachs contained masses of those small snail shells that lie in millions on the salt marshes: the wrinkles at the base of the bill, and the red breast, are strong characters of this species, as also the membrane which unites the outer and middle toes together.

The Red-breasted Snipe is ten inches and a half long, and eighteen inches in extent; the bill is about two inches and a quarter in length, straight, grooved, black towards the point, and of a dirty eelskin colour at the base, where it is tumid and wrinkled; lores dusky; cheeks and eyebrows pale yellowish white, mottled with specks of black; throat and breast a reddish buff colour; sides white, barred with black; belly and vent white, the latter barred with dusky; crown, neck above, back, scapulars and tertials, black, edged, mottled and marbled with yellowish white, pale and bright ferruginous, much in the same manner as the common Snipe; wings plain olive, the secondaries centred and bordered with white; shaft of the first quill very white; rump, tail-coverts and tail (which consists of twelve feathers) white, thickly spotted with black; legs and feet dull yellowish green; outer toe united to the middle one by a small membrane; eye very dark. The female, which is paler on the back, and less ruddy on the breast, has been described by Mr. Pennant as a separate species.*

These birds doubtless breed not far to the northward of the United States, if we may judge from the lateness of the season when they leave us in spring; the largeness of the eggs in the

* See his Brown Snipe, Arct. Zool. No. 369.

ovaries of the females before they depart, and the short period of time they are absent. Of all our sea-side Snipes it is the most numerous, and the most delicious for the table.

From these circumstances and the crowded manner in which it flies and settles, it is the most eagerly sought after by our gunners, who send them to market in great numbers.

*SPECIES 5. SCOLOPAX SEMIPALMATA.**

SEMIPALMATED SNIPE.

[Plate LVI.—Fig. 3.]

Arct. Zool. p. 469, *No.* 380.—Peale's *Museum, No.* 3942.†

This is one of the most noisy and noted birds that inhabit our salt marshes in summer. Its common name is the *Willet*, by which appellation it is universally known along the shores of New York, New Jersey, Delaware and Maryland, in all of which places it breeds in great numbers.

The Willet is peculiar to America. It arrives from the south, on the shores of the middle states, about the twentieth of April, or beginning of May; and from that time to the last of July, its loud and shrill reiterations of *Pill-will-willet, Pill-will-willet*, resound, almost incessantly, along the marshes; and may be distinctly heard at the distance of more than half a mile. About the twentieth of May the Willets generally begin to lay.‡ Their nests are built on the ground, among the grass of the salt marshes, pretty well towards the land, or cultivated fields, and are composed of wet rushes and coarse grass, forming a slight hollow or cavity in a tussock. This nest is gradually increased during the period of laying and sitting, to the height of five or six inches. The eggs are usually four in number, very thick at the great end, and tapering to a narrower point at the other than those of the common hen; they measure two inches and one-eighth in length, by one and a half in their greatest breadth,

* This and the five following species belong to the genus *Totanus* of Bechstein.

† *Scolopax Semipalmata*, Lath. *Syn.* III, p. 152, No. 22.—*Id. Ind. Orn.* p. 722, No. 27.—Gmel. *Syst.* I, p. 659, No. 331.

‡ From some unknown cause, the height of laying of these birds is said to be full two weeks later than it was twenty years ago.

and are of a dark dingy olive, largely blotched with blackish brown, particularly at the great end. In some the ground colour has a tinge of green; in others of bluish. They are excellent eating, as I have often experienced when obliged to dine on them in my hunting excursions through the salt marshes. The young are covered with a gray coloured down; run off soon after they leave the shell; and are led and assisted in their search of food by the mother; while the male keeps a continual watch around for their safety.

The anxiety and affection manifested by these birds for their eggs and young, are truly interesting. A person no sooner enters the marshes, than he is beset with the Willets, flying around and skimming over his head, vociferating with great violence their common cry of *Pill-will-willet;* and uttering at times a loud clicking note, as he approaches nearer to their nest. As they occasionally alight, and slowly shut their long white wings speckled with black, they have a mournful note, expressive of great tenderness. During the term of incubation, the female often resorts to the seashore, where, standing up to the belly in water, she washes and dresses her plumage, seeming to enjoy great satisfaction from these frequent immersions. She is also at other times seen to wade more in the water than most of her tribe; and when wounded in the wing, will take to the water without hesitation, and swims tolerably well.

The eggs of the Willet, in every instance which has come under my observation, are placed, during incubation, in an almost upright position, with the large end uppermost; and this appears to be the constant practice of several other species of birds that breed in these marshes. During the laying season, the Crows are seen roaming over the marshes in search of eggs, and wherever they come spread consternation and alarm among the Willets, who in united numbers attack, and pursue them with loud clamours. It is worthy of remark, that among the various birds that breed in these marshes, a mutual respect is paid to each other's eggs; and it is only from intruders from the

land side, such as Crows, Jays, weasels, foxes, minxes and man himself, that these affectionate tribes have most to dread.

The Willet subsists chiefly on small shell-fish, marine worms, and other aquatic insects, in search of which it regularly resorts to the muddy shores, and flats, at low water; its general rendezvous being the marshes.

This bird has a summer, and also a winter, dress, in its colours differing so much in these seasons as scarcely to appear to be the same species. Our figure in the plate exhibits it in its spring and summer plumage, which in a good specimen is as follows:

Length fifteen inches, extent thirty inches; upper parts dark olive brown, the feathers streaked down the centre and crossed with waving lines of black; wing-coverts light olive ash; the whole upper parts sprinkled with touches of dull yellowish white; primaries black, white at the root half; secondaries white, bordered with brown; rump dark brown; tail rounded, twelve feathers, pale olive, waved with bars of black; tail-coverts white, barred with olive; bill pale lead colour, becoming black towards the tip; eye very black; chin white; breast beautifully mottled with transverse spots of olive, on a cream ground; belly and vent white, the last barred with olive; legs and feet pale lead colour; toes half-webbed.

Towards the Fall, when these birds associate in large flocks, they become of a pale dun colour above, the plumage being shafted with dark brown, and the tail white, or nearly so. At this season they are extremely fat, and esteemed excellent eating. Experienced gunners always select the lightest coloured ones from a flock, as being uniformly the fattest.

The female of this species is generally larger than the male. In the months of October and November they gradually disappear.

SPECIES 6. SCOLOPAX VOCIFERUS.

TELL-TALE GODWIT, OR SNIPE.

[Plate LVIII.—Fig. 5.]

Stone Snipe, Arct. Zool. p. 468, *No.* 376.—Turt. *Syst. p.* 396.—Peale's *Museum, No.* 3940.*

This species, and the preceding, are both well known to our Duck-gunners, along the seacoast and marshes, by whom they are detested, and stigmatized with the names of the greater and lesser *Tell-tale*, for their faithful vigilance in alarming the Ducks with their loud and shrill whistle, on the first glimpse of the gunner's approach. Of the two the present species is by far the most watchful; and its whistle, which consists of four notes rapidly repeated, is so loud, shrill and alarming, as instantly to arouse every Duck within its hearing, and thus disappoints the eager expectations of the shooter. Yet the cunning and experience of the latter, is frequently more than a match for all of them, and before the poor *Tell-tale* is aware, his warning voice is hushed for ever, and his dead body mingled with those of his associates.

This bird arrives on our coast early in April, breeds in the marshes, and continues until November, about the middle of which month it generally moves off to the south. The nest, I have been informed, is built in a tuft of thick grass, generally on the borders of a bog or morass. The female, it is said, lays four eggs, of a dingy white, irregularly marked with black.

These birds appear to be unknown in Europe. They are simply mentioned by Mr. Pennant, as having been observed in autumn, feeding on the sands on the lower part of Chatteaux

* *Scolopax melanoleuca*, Gmel. *Syst.* i, *p.* 659, *No.* 32.—Lath. *Ind. Orn. p.* 723, *No.* 28.—*Spotted Snipe*, Lath. *Syn.* iii, *p.* 149, var. A. *Totanus melanoleucos*, Ord, *reprint*, vii, *p.* 61.

Bay, continually nodding their heads; and were called there Stone Curlews.*

The *Tell-tale* seldom flies in large flocks, at least during summer. It delights in watery bogs, and the muddy margins of creeks and inlets; is either seen searching about for food, or standing in a watchful posture, alternately raising and lowering the head, and on the least appearance of danger utters its shrill whistle, and mounts on wing, generally accompanied by all the feathered tribes that are near. It occasionally penetrates inland, along the muddy shores of our large rivers, seldom higher than tide water, and then singly and solitary. They sometimes rise to a great height in the air, and can be distinctly heard when beyond the reach of the eye. In the Fall, when they are fat, their flesh is highly esteemed, and many of them are brought to our markets. The colours and markings of this bird are so like those of the preceding, that unless in point of size, and the particular curvature of the bill, the description of one might serve for both.

The Tell-tale is fourteen inches and a half long, and twenty-five inches in extent; the bill is two inches and a quarter long, of a dark horn colour, and slightly bent upwards; the space round the eye, chin and throat, pure white; lower part of the neck pale ashy white, speckled with black; general colour of the upper parts an ashy brown, thickly spotted with black and dull white, each feather being bordered and spotted on the edge with black; wing quills black; some of the primaries, and all of the secondaries, with their coverts, spotted round the margins with black and white; head and neck above streaked with black and white; belly and vent pure white; rump white, dotted with black; tail also white, barred with brown; the wings, when closed, reach beyond the tail; thighs naked nearly two inches above the knees; legs two inches and three quarters long; feet four-toed, the outer joined by a membrane to the middle, the whole of a rich orange yellow. The female differs little in plu-

* Arct. Zool. p. 468.

mage from the male; sometimes the vent is slightly dotted with black, and the upper parts more brown.

Nature seems to have intended this bird as a kind of spy, or centinel, for the safety of the rest; and so well acquainted are they with the watchful vigilance of this species, that, while it continues silent among them, the Ducks feed in the bogs and marshes without the least suspicion. The great object of the gunner is to escape the penetrating glance of this guardian, which is sometimes extremely difficult to effect. On the first whistle of the Tell-tale, if beyond gunshot, the gunner abandons his design, but not without first bestowing a few left-handed blessings on the author of his disappointment.

SPECIES 7. SCOLOPAX FLAVIPES.

YELLOW-SHANKS SNIPE.

[Plate LVIII.—Fig. 4.]

Arct. Zool. p. 463, *No.* 878.—Turt. *Syst.* 395.—Peale's *Museum*, *No.* 3938.*

Of this species I have but little to say. It inhabits our sea-coasts, and salt marshes, during summer; frequents the flats at low water, and seems particularly fond of walking among the mud, where it doubtless finds its favourite food in abundance. Having never met with its nest, nor with any person acquainted with its particular place or manner of breeding, I must reserve these matters for further observation. It is a plentiful species, and great numbers are brought to market in Boston, New York, and Philadelphia, particularly in autumn. Though these birds do not often penetrate far inland, yet on the fifth of September I shot several dozens of them in the meadows of Schuylkill, below Philadelphia. There had been a violent north-east storm a day or two previous, and a large flock of these, accompanied by several species of *Tringa*, and a vast number of the Short-tailed Tern, appeared at once among the meadows. As a bird for the table the Yellow-shanks, when fat, is in considerable repute. Its chief residence is in the vicinity of the sea, where there are extensive mud-flats. It has a sharp whistle, of three or four notes, when about to take wing, and when flying. These birds may be shot down with great facility, if the sportsman, after the first discharge, will only lie close, and permit the wounded birds to flutter about without picking them up; the

* Gmel. Syst. i, p. 659, No. 31.—Lath. *Syn.* iii, p. 152, No. 24.—*Ind. Orn.* p. 723, No. 29.

flock will generally make a circuit and alight repeatedly, until the greater part of them may be shot down.*

Length of the Yellow-shanks ten inches, extent twenty; bill slender, straight, an inch and a half in length, and black; line over the eye, chin, belly and vent, white; breast and throat gray; general colour of the plumage above dusky brown olive, inclining to ash, thickly marked with small triangular spots of dull white; tail-coverts white; tail also white, handsomely barred with dark olive; wings plain dusky, the secondaries edged, and all the coverts edged and tipt, with white; shafts black; eye also black; legs and naked thighs long and yellow; outer toe united to the middle one by a slight membrane; claws a horn colour. The female can scarcely be distinguished from the male.

Note.—Mr. Ord in his reprint gives the following more minute description, of a female, shot on the twenty-second of April: "length upwards of ten inches, breadth twenty inches; irides brown; bill slender, straight, an inch and a half in length, and black, mandibles of equal length, the upper bent downwards at the tip; throat, lower parts, thighs, and under tail-coverts, white —the last are generally marked on their exterior vanes with brown; those next to the tail barred with the same; lower part of the neck, with the breast, gray, the feathers streaked down their centres with dusky; head and back part of the neck black, the plumage edged with gray, in some specimens edged with brown ash, upper parts black, with oblong spots of white, intermixed with pale brown feathers; rump brown, edged with white; upper tail-coverts white, barred with brown; the tail is composed of twelve feathers, white, barred with ashy brown, the upper feathers, in some, gray brown, marked on their vanes, though not across, with brown and white; wings, when closed, extend somewhat beyond the tail; primaries and secondaries dusky; shaft of first primary whitish above, the rest of the shafts

* These birds are very common, in the early part of May, on the muddy-flats of our rivers, particularly in the vicinity of Philadelphia, and are that period in good condition.

brown above, in some black, all white below; lesser wing-coverts dusky, slightly edged with white, and in some spotted with brown on the exterior vanes; secondaries slightly edged with white; legs bare above the knees upwards of an inch; length of tarsus two inches; outer toe connected as far as the first joint to the middle one, the membrane of the inner toe quite small; legs and feet yellow ochre; the claw of the middle toe has the appearance of having a supplemental nail at its base. A young male shot at the same time, had its upper parts mixed with cinereous."

GENUS 73. TRINGA. SANDPIPER.

SPECIES 1. *T. BARTRAMIA.*

BARTRAM'S SANDPIPER.

[Plate LIX.—Fig. 2.]

PEALE'S *Museum*, *No.* 4040.*

THIS bird being, as far as I can discover, a new species, undescribed by any former author, I have honoured it with the name of my very worthy friend, near whose Botanic Gardens, on the banks of the river Schuylkill, I first found it. On the same meadows I have since shot several other individuals of the species, and have thereby had an opportunity of taking an accurate drawing, as well as description of it.

Unlike most of their tribe, these birds appeared to prefer running about among the grass, feeding on beetles, and other winged insects. There were three or four in company; they seemed extremely watchful, silent, and shy, so that it was always with extreme difficulty I could approach them.

These birds are occasionally seen there during the months of August and September, but whether they breed near, I have not been able to discover. Having never met with them on the seashore, I am persuaded that their principal residence is in the interior, in meadows, and such like places. They run with great rapidity, sometimes spreading their tail, and dropping their wings, as birds do who wish to decoy you from their nest; when they alight, they remain fixed, stand very erect, and have two or three sharp whistling notes as they mount to fly. They are remarkably plump birds, weighing upwards of three-quarters of a pound; their flesh is superior, in point of delicacy, ten-

* *Totanus Bartramius*, TEMM. *Man. d'Orn. p.* 650.

derness and flavour, to any other of the tribe with which I am acquainted.

This species is twelve inches long, and twenty-one in extent; the bill is an inch and a half long, slightly bent downwards, and wrinkled at the base, the upper mandible black on its ridge, the lower, as well as the edge of the upper, of a fine yellow; front, stripe over the eye, neck and breast, pale ferruginous, marked with small streaks of black, which, on the lower part of the breast, assume the form of arrow heads; crown black, the plumage slightly skirted with whitish; chin, orbit of the eye, whole belly and vent, pure white; hind-head, and neck above, ferruginous, minutely streaked with black; back and scapulars black, the former slightly skirted with ferruginous, the latter with white; tertials black, bordered with white; primaries plain black; shaft of the exterior quill snowy, its inner vane elegantly pectinated with white; secondaries pale brown, spotted on their outer vanes with black, and tipt with white; greater coverts dusky, edged with pale ferruginous, and spotted with black; lesser coverts pale ferruginous, each feather broadly bordered with white, within which is a concentric semicircle of black; rump and tail-coverts deep brown black, slightly bordered with white; tail tapering, of a pale brown orange colour, beautifully spotted with black, the middle feather centred with dusky; legs yellow, tinged with green; the outer toe joined to the middle by a membrane; lining of the wings elegantly barred with black and white; iris of the eye dark, or blue black, eye very large. The male and female are nearly alike.

Note.—Whether the bird described by Temminck, (*Man. d'Orn. p.* 650.) is identical with this species, will admit of some doubt; although this excellent ornithologist says, that "*les individus d'Europe et ceux d'Amerique ne different point.*" Bartram's Sandpiper is known to our shooters by the name of *Grass Plover.* It breeds in low grounds, in the state of New Jersey. When watching its nest, it is fond of sitting upon fences; and on alighting, it throws up its wings in the manner of

the *Willet*. In the early part of August it begins to migrate; it then flies high, and may be easily recognized by its whistling notes, which resemble those of the *Tell-tale*. In the middle of June I observed this species in the vicinity of Burlington, New Jersey; but I could not discover its nest. *G. Ord.*

SPECIES 2. TRINGA SOLITARIA.

SOLITARY SANDPIPER.

[Plate LVIII.—Fig. 3.]

PEALE'S *Museum, No. 7763.**

THIS new species inhabits the watery solitudes of our highest mountains during the summer, from Kentucky to New York; but is no where numerous, seldom more than one or two being seen together. It takes short low flights; runs nimbly about among the mossy margins of the mountain springs, brooks and pools, occasionally stopping, looking at you, and perpetually nodding the head. It is so unsuspicious, or so little acquainted with man, as to permit one to approach within a few yards of it, without appearing to take any notice, or to be the least alarmed. At the approach of cold weather, it descends to the muddy shores of our large rivers, where it is occasionally met with, singly, on its way to the south. I have made many long and close searches for the nest of this bird, without success. They regularly breed on Pocano mountain, between Easton and Wilkesbarre, in Pennsylvania, arriving there early in May, and departing in September. It is usually silent, unless when suddenly flushed, when it utters a sharp whistle.

This species has considerable resemblance, both in manners and markings, to the Green Sandpiper of Europe (*Tringa Ochropus*); but differs from that bird in being nearly one-third less, and in wanting the white rump and tail-coverts of that species; it is also destitute of its silky olive green plumage. How far north its migrations extend I am unable to say.

The Solitary Sandpiper is eight inches and a half long, and fifteen inches in extent; the bill is one inch and a quarter in

* *Totanus glareolus*, ORD'S *reprint*, VII, *p.* 57.—*Totanus chloropygius*, VIEILL.—*Prince Musignano, Gen. N. A. Birds.*

length, and dusky; nostrils pervious, bill fluted above and below; line over the eye, chin, belly and vent, pure white; breast white, spotted with pale olive brown; crown and neck above dark olive, streaked with white; back, scapulars and rump, dark brown olive, each feather marked along the edges with small round spots of white; wings plain, and of a darker tint; under tail-covert spotted with black; tail slightly rounded, the five exterior feathers on each side white, broadly barred with black; the two middle ones, as well as their coverts, plain olive; legs long, slender, and of a dusky green. Male and female alike in colour.

SPECIES 3. *TRINGA MACULARIA.*

SPOTTED SANDPIPER.

[Plate LIX.—Fig. 1.]

Arct. Zool. p. 473, *No.* 385.—*La Grive d'eau*, Buff. viii, 140.—Edw. 277.—Peale's *Museum*, *No.* 4056.*

This very common species arrives in Pennsylvania about the twentieth of April, making its first appearance along the shores of our large rivers, and, as the season advances, tracing the courses of our creeks and streams towards the interior. Along the rivers Schuylkill and Delaware, and their tributary waters, they are in great abundance during the summer. This species is as remarkable for perpetually wagging the tail, as some others are for nodding the head; for whether running on the ground, or on the fences, along the rails, or in the water, this motion seems continual; even the young, as soon as they are freed from the shell, run about constantly wagging the tail. About the middle of May they resort to the adjoining corn fields to breed, where I have frequently found and examined their nests. One of these, now before me, and which was built at the root of a hill of Indian corn, on high ground, is composed wholly of short pieces of dry straw. The eggs are four, of a pale clay or cream colour, marked with large irregular spots of black, and more thinly with others of a paler tint. They are large in proportion to the size of the bird, measuring an inch and a quarter in length, very thick at the great end, and tapering suddenly to the other. The young run about with wonderful speed as soon as they leave the shell, and are then covered with down

* *Tringa macularia*, Gmel. *Syst.* i, *p.* 672, *No.* 7.—Lath. *Ind. Orn. p.* 734, *No.* 29.—*Totanus macularius*, Temm. *Man. d'Orn. p.* 656.

of a full drab colour, marked with a single streak of black down the middle of the back, and with another behind each ear. They have a weak, plaintive note. On the approach of any person, the parents exhibit symptoms of great distress, counterfeiting lameness, and fluttering along the ground with seeming difficulty. On the appearance of a dog, this agitation is greatly increased; and it is very interesting to observe with what dexterity the female will lead him from her young, by throwing herself repeatedly before him, fluttering off, and keeping just without his reach, on a contrary direction from her helpless brood. My venerable friend, Mr. William Bartram, informs me, that he saw one of these birds defend her young, for a considerable time, from the repeated attacks of a ground squirrel. The scene of action was on the river shore. The parent had thrown herself, with her two young behind her, between them and the land; and at every attempt of the squirrel to seize them by a circuitous sweep, raised both her wings in an almost perpendicular position, assuming the most formidable appearance she was capable of, and rushed forwards on the squirrel, who, intimidated by her boldness and manner, instantly retreated; but presently returning, was met, as before, in front and on flank, by the daring and affectionate bird, who with her wings and whole plumage bristling up, seemed swelled to twice her usual size. The young crowded together behind her, apparently sensible of their perilous situation, moving backwards and forwards as she advanced or retreated. This interesting scene lasted for at least ten minutes; the strength of the poor parent began evidently to flag, and the attacks of the squirrel became more daring and frequent, when my good friend, like one of those celestial agents who, in Homer's time, so often decided the palm of victory, stepped forward from his retreat, drove the assailant back to his hole, and rescued the innocent from destruction.

The flight of this bird is usually low, skimming along the surface of the water, its long wings making a considerable angle downwards from the body, while it utters a rapid cry of *weet*

weet weet as it flutters along, seldom steering in a direct line up or down the river, but making a long circuitous sweep, stretching a great way out, and gradually bending in again to the shore.

These birds are found occasionally along the sea marshes, as well as in the interior; and also breed in the corn fields there, frequenting the shore in search of food; but rarely associating with the other *Tringæ*. About the middle of October they leave us on their way to the south, and do not, to my knowledge, winter in any of the Atlantic states.

Mr. Pennant is of opinion that this same species is found in Britain; but neither his description, nor that of Mr. Bewick, will apply correctly to this. The following particulars, with the figure, will enable Europeans to determine this matter to their satisfaction.

Length of the Spotted Sandpiper seven inches and a half, extent thirteen inches; bill an inch long, straight, the tip, and upper mandible, dusky, lower orange; stripe over the eye, and lower eye-lid, pure white; whole upper parts a glossy olive, with greenish reflections, each feather marked with waving spots of dark brown; wing quills deep dusky; bastard wing bordered and tipt with white; a spot of white on the middle of the inner vane of each quill feather, except the first; secondaries tipped with white; tail rounded, the six middle feathers greenish olive, the other three, on each side, white, barred with black; whole lower parts white, beautifully marked with roundish spots of black, small and thick on the throat and breast, larger and thinner as they descend to the tail; legs a yellow clay colour; claws black.

The female is as thickly spotted below as the male; but the young birds, of both sexes, are pure white below, without any spots; they also want the orange on the bill. These circumstances I have verified on numerous individuals.

SPECIES 4. *TRINGA SEMIPALMATA.*

SEMIPALMATED SANDPIPER.

[Plate LXIII.—Fig. 4.]

PEALE'S *Museum, No.* 4023.

THIS is one of the smallest of its tribe; and seems to have been entirely overlooked, or confounded with another which it much resembles (*Tringa pusilla,*) and with whom it is often found associated.

Its half-webbed feet, however, are sufficient marks of distinction between the two. It arrives and departs with the preceding species; flies in flocks with the Stints, Purres, and a few others; and is sometimes seen at a considerable distance from the sea, on the sandy shores of our fresh water lakes. On the twenty-third of September, I met with a small flock of these birds in Burlington bay, on lake Champlain. They are numerous along the seashores of New Jersey; but retire to the south on the approach of cold weather.

This species is six inches long, and twelve in extent; the bill is black, an inch long, and very slightly bent; crown and body above dusky brown, the plumage edged with ferruginous, and tipt with white; tail and wings nearly of a length; sides of the rump white; rump and tail-coverts black; wing quills dusky black, shafted and banded with white, much in the manner of the Least Snipe; over the eye a line of white; lesser coverts tipt with white; legs and feet blackish ash, the latter half-webbed. Males and females alike in colour.

These birds varied greatly in their size, some being scarcely five inches and a half in length, and the bill not more than three quarters; others measured nearly seven inches in the whole length, and the bill upwards of an inch. In their general ap-

pearance they greatly resemble the Stints or Least Snipe; but unless we allow that the same species may sometimes have the toes half-webbed, and sometimes divided to the origin, and this not in one or two solitary instances, but in whole flocks, which would be extraordinary indeed, we cannot avoid classing this as a new and distinct species.

SPECIES 5. TRINGA PUSILLA.

LITTLE SANDPIPER.

[Plate XXXVII.—Fig. 4.]

LATH. *Syn.* v, *p.* 184—32.—*Arct. Zool.* II, *No.* 397.—*Cinclus dominicensis minor*, BRISS. v, *p.* 222. 13. *t.* 25. *f.* 2.—TURT. *Syst. p.* 410.—PEALE'S *Museum*, *No.* 4138.

THIS is the least of its tribe in this part of the world, and in its mode of flight has much more resemblance to the Snipe than to the Sandpiper. It is migratory, departing early in October for the south. It resides chiefly among the sea marshes, and feeds among the mud at low water; springs with a zig-zag irregular flight, and a feeble twit. It is not altogether confined to the neighbourhood of the sea, for I have found several of them on the shores of the Schuylkill, in the month of August. In October, immediately before they go away, they are usually very fat. Their nests or particular breeding places I have not been able to discover.

This minute species is found in Europe, and also at Nootka sound on the western coast of America. Length five inches and a half; extent eleven inches; bill and legs brownish black; upper part of the breast gray brown, mixed with white; back and upper parts black; the whole plumage above broadly edged with bright bay and yellow ochre; primaries black; greater coverts the same, tipt with white; eye small, dark hazel; tail rounded, the four exterior feathers on each side dull white, the rest dark brown; tertials as long as the primaries; head above dark brown with paler edges; over the eye a streak of whitish; belly and vent white; the bill is thick at the base, and very slender towards the point; the hind toe small. In some specimens the legs were

of a dirty yellowish colour. Sides of the rump white; just below the greater coverts the primaries are crossed with white.

Very little difference could be perceived between the plumage of the males and females. The bay on the edges of the back, and scapulars, was rather brighter in the male, and the brown deeper.

SPECIES 6. *TRINGA ALPINA.*

RED-BACKED SANDPIPER.

[Plate LVI.—Fig. 2.]

Dunlin, Arct. Zool. p. 476, *No.* 391.—Bewick, ii, *p.* 113.—*La Brunnette,* Buff. vii, 493.—Peale's *Museum, No.* 4094.*

This bird inhabits both the old and new continents, being known in England by the name of the Dunlin; and in the United States, along the shores of New Jersey, by that of the Red-back. Its residence here is but transient, chiefly in April and May, while passing to the arctic regions to breed; and in September and October, when on its return southward to winter quarters. During their stay they seldom collect in separate flocks by themselves; but mix with various other species of strand-birds, among whom they are rendered conspicuous by the red colour of the upper part of their plumage. They frequent the muddy flats, and shores of the salt marshes, at low water, feeding on small worms and other insects which generally abound in such places. In the month of May they are extremely fat.

This bird is said to inhabit Greenland, Iceland, Scandinavia, the Alps of Siberia; and in its migrations the coasts of the Caspian sea.† It has not, till now, been recognized by naturalists as inhabiting this part of North America. Wherever its breeding place may be, it probably begins to lay at a late period of the season, as in numbers of females which I examined on the first of June, the eggs were no larger than grains of mustard seed.

Length of the Red-back eight inches and a half, extent fifteen inches; bill black, longer than the head, (which would seem to rank it with the Snipes) slightly bent, grooved on the upper

* *Tringa alpina,* Lath. *Ind. Orn.* 736, *No.* 37.—*Le Cincle,* Buff. *Pl. Enl.* 852.

† Pennant.

mandible, and wrinkled at the base; crown, back and scapulars, bright reddish rust, spotted with black; wing-coverts pale olive; quills darker; the first tipt, the latter crossed, with white; front, cheeks, hind-head, and sides of the neck, quite round, also the breast, grayish white, marked with small specks of black; belly white, marked with a broad crescent of black; tail pale olive, the two middle feathers centred with black; legs and feet ashy black; toes divided to their origin, and bordered with a slightly scalloped membrane; irides very dark.

The males and females are nearly alike in one respect, both differing greatly in colour even at the same season, probably owing to difference of age; some being of a much brighter red than others, and the plumage dotted with white. In the month of September, many are found destitute of the black crescent on the belly; these have been conjectured to be young birds.

Note.—After an attentive examination of many of these birds on the coast of Cape May, in the month of April, I am perfectly convinced, that the hitherto supposed two species, the present and the Purre, constitute but one species, the latter being in immature plumage. In some instances, I found the Purres were beginning to get the broad band of black on the belly, and the black thickening with ruddy feathers, appearing almost perfect Black-bellied Sandpipers.

Wilson's MSS.

*TRINGA CINCLUS.**

THE PURRE.

[Plate LVII.—Fig. 3.]

Linn. *Syst.* 251.—*Arct. Zool. p.* 475, *No.* 390.—Bewick, ii, *p.* 115.—*L'Alouette de mer*, Buff. vii, 548.—Peale's *Museum*, *No.* 4126.

This is one of the most numerous of our *Strand-birds*, as they are usually called, that frequent the sandy beech, on the frontiers of the ocean. In its habit it differs so little from the preceding, that, except in being still more active and expert in running, and searching among the sand, on the reflux of the waves, as it nimbly darts about for food, what has been said of the former will apply equally to both, they being pretty constant associates on these occasions.

The Purre continues longer with us both in spring and autumn than either of the two preceding; many of them remain during the very severest of the winter, though the greater part retire to the more genial regions of the south; where I have seen them at such seasons, particularly on the seacoasts of both Carolinas, during the month of February, in great numbers.

These birds, in conjunction with several others, sometimes collect together in such flocks, as to seem, at a distance, a large cloud of thick smoke, varying in form and appearance every instant, while it performs its evolutions in air. As this cloud descends, and courses along the shores of the ocean, with great rapidity, in a kind of waving serpentine flight, alternately throwing its dark and white plumage to the eye, it forms a very grand and interesting appearance. At such times the gunners make prodigious slaughter among them; while, as the showers

* The preceding species in immature plumage.

of their companions fall, the whole body often alight, or descend to the surface with them, till the sportsman is completely satiated with destruction. On some of those occasions, while crowds of these victims are fluttering along the sand, the small Pigeon Hawk, constrained by necessity, ventures to make a sweep among the dead, in presence of the proprietor, but as suddenly pays for his temerity with his life! Such a tyrant is man, when vested with power, and unrestrained by the dread of responsibility.

The Purre is eight inches in length, and fifteen inches in extent; the bill is black, straight, or slightly bent downwards, about an inch and a half long, very thick at the base, and tapering to a slender blunt point at the extremity; eye very small, iris dark hazel; cheeks gray; line over the eye, belly and vent, white; back and scapulars of an ashy brown, marked here and there with spots of black, bordered with bright ferruginous; sides of the rump white; tail-coverts olive, centred with black; chin white; neck below gray; breast and sides thinly marked with pale spots of dusky, in some pure white; wings black, edged and tipt with white; two middle tail feathers dusky, the rest brown ash, edged with white; legs and feet black; toes bordered with a very narrow scalloped membrane. The usual broad band of white crossing the wing, forms a distinguishing characteristic of almost the whole genus.

On examining more than a hundred of these birds, they varied considerably in the black and ferruginous spots on the back and scapulars; some were altogether plain, while others were thickly marked, particularly on the scapulars, with a red rust colour, centred with black. The females were uniformly more plain than the males; but many of the latter, probably young birds, were destitute of the ferruginous spots. On the twenty-fourth of May, the eggs in the females were about the size of partridge shot. In what particular regions of the north these birds breed, is altogether unknown.

SPECIES 7. TRINGA RUFA.

RED-BREASTED SANDPIPER.

[Plate LVII.—Fig. 5.]

PEALE'S *Museum, No.* 4050.

OF this prettily marked species I can find no description. The *Tringa Icelandica*, or Aberdeen Sandpiper, of Pennant and others, is the only species that has any resemblance to it; the descriptions of that bird, however, will not apply to the present.*

The common name of this species, on our seacoast, is the *Gray-back*, and among the gunners it is a particular favourite, being generally a plump, tender, and excellent bird for the table; and, consequently, brings a good price in market.

The Gray-backs do not breed on the shores of the middle states. Their first appearance is early in May. They remain a few weeks, and again disappear until October. They usually keep in small flocks, alight in a close body together on the sand flats, where they search for the small bivalve shells already described. On the approach of the sportsman, they frequently stand fixed and silent for some time; do not appear to be easily

* This appears to be an error. This species is probably no other than the *Tringa Islandica* in summer dress; and as many nominal species have been made of it, we quote the following synonymes from prince Musignano's observations, Journal Acad. Nat. Sc. Phil. vol. v, p. 93.—"*Tringa alpina*, LINN. GMEL. LATH.—TRINGA *cinclus*, LINN. BRISS. GMEL. LATH. winter plumage.—TRINGA *rufficollis*, GMEL. LATH. spring moulting.—SCOLOPAX *pusilla?* GMEL. (moulting.) Is it not rather T. *schinzii*, Brehm?—TRINGA *cinclus torquatus*, BRISS. moulting.—SCOLOPAX *gallinago anglicana?* BRISS. moulting. Is it not rather T. *schinzii?*—TRINGA *variabilis*, MEYER, TEMM. SABINE.—*Le Cincle*, BUFF. *Pl. Enl.* 852, moulting.—*L' Alouette de mer?* BUFF. *Pl. Enl.* 851, moulting. With Vieillot we do not think this plate intended for TRINGA *subarquata*, TEMM. as it is thought by Meyer and Temminck."

alarmed, neither do they run about in the water as much as some others, or with the same rapidity, but appear more tranquil and deliberate. In the month of November they retire to the south.

This species is ten inches long, and twenty in extent; the bill is black, and about an inch and a half long; the chin, eyebrows, and whole breast, a pale brownish orange colour; crown, hind-head, from the upper mandible backwards, and neck, dull white, streaked with black; back a pale slaty olive, the feathers tipt with white, barred and spotted with black and pale ferruginous; tail-coverts white, elegantly barred with black; wings plain dusky, black towards the extremity; the greater coverts tipt with white; shafts of the primaries white; tail pale ashy olive, finely edged with white, the two middle feathers somewhat the longest; belly and vent white, the latter marked with small arrow-heads of black; legs and feet black; toes bordered with a narrow membrane; eye small and black.

In some specimens, both of males and females, the red on the breast was much paler, in others it descended as far as the thighs. Both sexes seemed nearly alike.

*TRINGA CINEREA.**

ASH-COLOURED SANDPIPER.

[Plate LVII.—Fig. 2.]

Arct. Zool. p. 474, *No.* 386.—Bewick, ii, *p.* 102.—Peale's *Museum, No.* 4060.

The regularly disposed concentric semicircles of white and dark brown that mark the upper parts of the plumage of this species, distinguish it from all others, and give it a very neat appearance. In activity it is superior to the preceding; and traces the flowing and recession of the waves along the sandy beach, with great nimbleness, wading and searching among the loosened particles for its favourite food, which is a small thin oval bivalve shell-fish, of a white or pearl colour, and not larger than the seed of an apple. These usually lie at a short depth below the surface; but in some places are seen at low water in heaps, like masses of wet grain, in quantities of more than a bushel together. During the latter part of summer and autumn, these minute shell-fish constitute the food of almost all those busy flocks, that run with such activity along the sands, among the flowing and retreating waves. They are universally swallowed whole; but the action of the bird's stomach, assisted by the shells themselves, soon reduces them to a pulp. If we may judge from their effects, they must be extremely nutritious, for almost all those tribes that feed on them are at this season mere lumps of fat. Digging for these in the hard sand would be a work of considerable labour, whereas when the particles are loosened by the flowing of the sea, the birds collect them with great ease and dexterity. It is amusing to observe with what adroitness

* This is the preceding species in winter dress, according to prince Musignano.

they follow and elude the tumbling surf, while at the same time they seem wholly intent on collecting their food.

The Ash-coloured Sandpiper, the subject of our present account, inhabits both Europe and America. It has been seen in great numbers on the Seal islands near Chatteaux Bay; is said to continue the whole summer in Hudson's Bay, and breeds there. Mr. Pennant suspects that it also breeds in Denmark; and says that they appear in vast flocks on the Flintshire shores, during the winter season.* With us they are also migratory, being only seen in spring and autumn. They are plump birds; and by those accustomed to the sedgy taste of this tribe, are esteemed excellent eating.

The length of this species is ten inches, extent twenty; bill black, straight, fluted to nearly its tip, and about an inch and a half long; upper parts brownish ash, each feather marked near the tip with a narrow semicircle of dark brown, bounded by another of white; tail-coverts white, marbled with olive; wing quills dusky, shafts white; greater coverts black, tipt with white; some of the primaries edged also with white; tail plain pale ash, finely edged and tipt with white; crown and hind-head streaked with black, ash and white; stripe over the eye, cheeks and chin, white, the former marked with pale streaks of dusky, the latter pure; breast white, thinly specked with blackish; belly and vent pure white; legs a dirty yellowish clay colour; toes bordered with a narrow thick warty membrane; hind-toe directed inwards, as in the Turn-stone; claws and eye black.

These birds vary a little in colour, some being considerably darker above, others entirely white below; but, in all, the concentric semicircles on the back, scapulars, and wing-coverts, are conspicuous.

I think it probable that these birds become much lighter coloured during the summer, from the circumstance of having shot one late in the month of June, at Cape May, which was of a pale drab or dun colour. It was very thin and emaciated; and

* Arct. Zool. p. 474.

on examination appeared to have been formerly wounded, which no doubt occasioned its remaining behind its companions.

Early in December I examined the same coast every day for nearly two weeks, without meeting with more than one solitary individual of this species; although in October they were abundant. How far to the southward they extend their migrations, we have no facts that will enable us to ascertain; though it is probable that the shores of the West India islands afford them shelter and resources during our winter.

SPECIES 8. *TRINGA INTERPRES.**

TURN-STONE.

[Plate LVII.—Fig. 1.]

Hebridal Sandpiper, Arct. Zool. p. 472, *No.* 382.—*Le Tournepierre*, Buff. vii, 130. *Pl. Enl.* 130.—Bewick, ii, *p.* 119, 121. —Catesby, i, 72.—Peale's *Museum*, *No.* 4044.

This beautifully variegated species is common to both Europe and America; consequently extends its migrations far to the north. It arrives from the south, on the shores of New Jersey, in April; leaves them early in June; is seen on its return to the south in October; and continues to be occasionally seen until the commencement of the cold weather, when it disappears for the season. It is rather a scarce species in this part of the world,† and of a solitary disposition; seldom mingling among the large flocks of other Sandpipers; but either coursing the sands alone, or in company with two or three of its own species. On the coast of Cape May and Egg-Harbour, this bird is well known by the name of the *Horse-foot Snipe*, from its living, during the months of May and June, almost wholly on the eggs or spawn of the great King Crab, called here, by the common people, the *Horse-foot*. This animal is the *Monoculus polyphemus* of entomologists. Its usual size is from twelve to fifteen inches in breadth, by two feet in length; though sometimes it is found much larger. The head, or forepart, is semicircular, and convex above, covered with a thin elastic shelly case. The lower side is concave, where it is furnished with feet and claws resembling those of a crab. The posterior extremity

* This bird belongs to the Genus *Strepsilas* of Illiger; it is the only species of the genus known; and is found in almost every quarter of the world.

† This species is now found in great abundance on the coast of New Jersey; and becomes excessively fat, in the month of May.

consists of a long, hard, pointed, dagger-like tail, by means of which, when overset by the waves, the animal turns itself on its belly again. The male may be distinguished from the female by his two large claws having only a single hook each, instead of the forceps of the female. In the bay of Delaware, below Egg-island, and in what is usually called Maurice river cove, these creatures seem to have formed one of their principal settlements. The bottom of this cove is generally a soft mud, extremely well suited to their accommodation. Here they are resident, burying themselves in the mud during the winter, but early in the month of May they approach the shore in multitudes, to obey the great law of nature, in depositing their eggs within the influence of the sun, and are then very troublesome to the fishermen, who can scarcely draw a seine for them, they are so numerous. Being of slow motion, and easily overset by the surf, their dead bodies cover the shore in heaps, and in such numbers, that for ten miles one might walk on them without touching the ground.

The hogs from the neighbouring country are regularly driven down, every spring, to feed on them, which they do with great avidity; though by this kind of food their flesh acquires a strong disagreeable fishy taste. Even the small turtles, or terrapins, so eagerly sought after by our epicures, contract so rank a taste by feeding on the spawn of the king crab, as to be at such times altogether unpalatable. This spawn may sometimes be seen lying in hollows and eddies in bushels; while the Snipes and Sanpipers, particularly the Turn-stone, are hovering about, feasting on the delicious fare. The dead bodies of the animals themselves are hauled up in wagons for manure, and when placed at the hills of corn, in planting time, are said to enrich the soil, and add greatly to the increase of the crop.

The Turn-stone derives its name from another singularity it possesses, of turning over, with its bill, small stones and pebbles in search of various marine worms and insects. At this sort of work it is exceedingly dexterous; and even when taken

and domesticated, is said to retain the same habit.* Its bill seems particularly well constructed for this purpose, differing from all the rest of its tribe, and very much resembling, in shape, that of the common Nuthatch. We learn from Mr. Pennant, that these birds inhabit Hudson's Bay, Greenland, and the arctic flats of Siberia, where they breed, wandering southerly in autumn. It is said to build on the ground, and to lay four eggs, of an olive colour spotted with black; and to inhabit the isles of the Baltic during summer.

The Turn-stone flies with a loud twittering note, and runs with its wings lowered; but not with the rapidity of others of its tribe. It examines more completely the same spot of ground, and, like some of the Woodpeckers, will remain searching in the same place, tossing the stones and pebbles from side to side for a considerable time.

These birds vary greatly in colour, scarcely two individuals are to be found alike in markings. These varieties are most numerous in autumn, when the young birds are about, and are less frequently met with in spring. The most perfect specimens I have examined are as follows:

Length eight inches and a half, extent seventeen inches; bill blackish horn; frontlet, space passing through the eyes, and thence dropping down, and joining the under mandible, black, enclosing a spot of white. Crown white, streaked with black; breast black, whence it turns up half across the neck; behind the eye a spot of black; upper part of the neck white, running down and skirting the black breast, as far as the shoulder; upper part of the back black, divided by a strip of bright ferruginous; scapulars black, glossed with greenish, and interspersed with rusty red; whole back below this pure white, but hid by the scapulars; rump black; tail-coverts white; tail rounded, white at the base half, thence black to the extremity; belly and vent white; wings dark dusky, crossed by two bands of white; lower half of the lesser coverts ferruginous; legs and feet a bright ver-

* Catesby.

milion, or red lead; hind toe standing inwards, and all of them edged with a thick warty membrane. The male and female are alike variable; and when in perfect plumage nearly resemble each other.

Bewick, in his History of British Birds, has figured and described what he considers to be two species of Turn-stone; one of which, he says, is chiefly confined to the southern, and the other to the northern parts of Great Britain. The difference, however, between these two appears to be no greater than commonly occurs among individuals of the same flock, and evidently of the same species, in this country. As several years probably elapse before these birds arrive at their complete state of plumage, many varieties must necessarily appear, according to the different ages of the individuals.

GENUS 74. CHARADRIUS. PLOVER.

SPECIES 1. *C. HIATICULA.*

RINGED PLOVER.*

[Plate XXXVII.—Fig. 3.†]

LATH. *Syn.* v, *p.* 201. 8.—*Arct. Zool.* II, *No.* 401.—*Petit Pluvier, a collier*, BUFF. VIII, *p.* 90—6.—*Pl. Enl.* 921.—*Pluvialis Torquata minor*, BRISS. v, *p.* 63. 8. *t.* 5. *f.* 2.—TURT, *Syst. p.* 411. 2. —PEALE'S *Museum*, *No.* 4150.

IT was not altogether consistent with my original plan to introduce any of the Grallæ or Waders, until I had advanced nearer to a close with the Land Birds; but as the scenery here seemed somewhat appropriate, I have taken the liberty of placing in it two birds, reduced to one-third of their natural size, both being *varieties* of their respective species, each of which will appear in their proper places, in some future volume of this work, in full size and in their complete plumage.

The Ring Plover is very abundant on the low sandy shores of our whole sea-coast, during summer. They run, or rather seem to glide, rapidly along the surface of the flat sands; frequently spreading out their wings and tail like a fan, and fluttering along, to draw or entice one away from their nests. These are formed with little art; being merely shallow concavities dug in the sand, in which the eggs are laid, and, during the day at least, left to the influence of the sun to hatch them.

*Wilson in his account of the following species gives reasons for supposing this bird to be specifically different from the Ring Plover of Plate LIX. It is undoubtedly a distinct species; and has been named by Mr. Ord, Piping Plover—*C. Melodus*. The synonymes given by our author do not of course apply to this species.

†Adult in spring dress.

The parents, however, always remain near the spot to protect them from injury, and probably in cold rainy or stormy weather, to shelter them with their bodies. The eggs are three, sometimes four, large for the bird, of a dun clay colour, and marked with numerous small spots of reddish purple.

The voice of these little birds, as they move along the sand, is soft and musical, consisting of a single plaintive note occasionally repeated. As you approach near their nests, they seem to court your attention, and the moment they think you observe them, they spread out their wings and tail, dragging themselves along, and imitating the squeaking of young birds; if you turn from them they immediately resume their proper posture until they have again caught your eye, when they display the same attempts at deception as before. A flat dry sandy beach, just beyond the reach of the summer tides, is their favourite place for breeding.

This species is subject to great variety of change in its plumage. In the month of July I found most of those that were breeding on Summers's Beach, at the mouth of Great Egg-Harbour, such as I have here figured; but about the beginning or middle of October they had become much darker above, and their plumage otherwise varied. They were then collected in flocks; their former theatrical and deceptive manœuvres seemed all forgotten. They appeared more active than before, as well as more silent; alighting within a short distance of one, and feeding about without the least appearance of suspicion. At the commencement of winter they all go off towards the south.

This variety of the Ringed Plover is seven inches long, and fourteen in extent; the bill is reddish yellow for half its length, and black at the extremity; the front and whole lower parts pure white, except the side of the breast, which is marked with a curving streak of black, another spot of black bounding the front above; back and upper parts very pale brown, inclining to ashy white, and intermixed with white; wings pale brown, greater coverts broadly tipt with white; interior edges of the secondaries, and outer edges of the primaries white, and tipt with brown;

tail nearly even, the lower half white, brown towards the extremity, the outer feather pure white, the next white with a single spot of black; eye black, and full, surrounded by a narrow ring of yellow; legs reddish yellow; claws black; lower side of the wings pure white.

*SPECIES 2. C. HIATICULA.**

RING PLOVER.

[Plate LIX.—Fig. 3.]

Arct. Zool. p. 485, *No.* 401.—*La petit Pluvier a collier*, Buff. viii, 90.—Bewick, i, 326.—Peale's *Museum*, *No.* 4150.†

In a preceding part of this work‡ a bird by this name has been figured and described, under the supposition that it was the Ring Plover, then in its summer dress; but which, notwithstanding its great resemblance to the present, I now suspect to be a different species. Fearful of perpetuating error, and anxious to retract, where this may inadvertently have been the case, I shall submit to the consideration of the reader the reasons on which my present suspicions are founded.

The present species, or true Ring Plover, and also the former, or light coloured bird, both arrive on the seacoast of New Jersey late in April. The present kind continues to be seen in flocks until late in May, when they disappear on their way farther north; the light-coloured bird remains during the summer, forms its nest in the sand, and generally produces two broods in the season. Early in September the present species returns in flocks as before; soon after this, the light-coloured kind go off to the south, but the other remain a full month later. European writers inform us, that the Ring Plover has a sharp twittering note, and this account agrees exactly with that of the present; the light coloured species, on the contrary, has a peculiarly soft and musical note, similar to the tone of a German

* *Tringa hiaticula*, in the original edition, which with Prince Musignano, we consider as a typographical error.

† *Charadrius semipalmatus*, Bonaparte, Ann. Lyc, Nat. Hist. N. Y. Vol. ii, p. 296.

‡ See preceding species.

flute, which it utters while running along the sand, with expanded tail, and hanging wings, endeavouring to decoy you from its nest. The present species is never seen to breed here; and though I have opened great numbers of them as late as the twentieth of May, the eggs, which the females contained, were never larger than small bird-shot; while, at the same time, the light-coloured kind had every where begun to lay in the little cavities which they had dug on the sand, on the beach. These facts being considered, it seems difficult to reconcile such difference of habit in one and the same bird. The Ring Plover is common in England, and agrees exactly with the one before us; but the light-coloured species, as far as I can learn, is not found in Britain; specimens of it have indeed been taken to that country, where the most judicious of their ornithologists have concluded it to be still the Ring Plover, but to have changed from the effect of climate. Mr. Pennant, in speaking of the true Ring Plover, makes the following remarks: "Almost all which I have seen from the northern parts of North America have had the black marks extremely faint, and almost lost. The climate had almost destroyed the specific marks; yet in the bill and habit preserved sufficient to make the kind very easily ascertained." These traits agree exactly with the light-coloured species described in our fifth volume. But this excellent naturalist was perhaps not aware that we have the true Ring Plover here in spring and autumn, agreeing in every respect with that of Britain, and at least in equal numbers; why, therefore, has not the climate equally affected the present and the former sort, if both are the same species? These inconsistencies cannot be reconciled but by supposing each to be a distinct species, which, though approaching extremely near to each other, in external appearance, have each their peculiar notes, colour, and places of breeding.

The Ring Plover is seven inches long, and fourteen inches in extent; bill short, orange coloured, tipt with black, front and chin white, encircling the neck; upper part of the breast black; rest of the lower parts pure white; fore part of the crown black;

band from the upper mandible, covering the auriculars, also black; back, scapulars, and wing-coverts, of a brownish ash colour; wing quills dusky black, marked with an oval spot of white about the middle of each; tail olive, deepening into black, and tipt with white; legs dull yellow; eye dark hazel, eyelids yellow.

This bird is said to make no nest, but to lay four eggs, of a pale ash colour, spotted with black, which she deposites on the ground.* The eggs of the light-coloured species, formerly described, are of a pale cream colour, marked with small round dots of black, as if done with a pen.

The Ring Plover, according to Pennant, inhabits America, down to Jamaica and the Brazils. Is found in summer in Greenland; migrates thence in autumn. Is common in every part of Russia and Siberia. Was found by the navigators as low as Owyhee, one of the Sandwich islands, and as light-coloured as those of the highest latitudes.†

*Bewick. †Arct. Zool. p. 485.

SPECIES 3. *CHARADRIUS WILSONIUS.*

WILSON'S PLOVER.

[Plate LXXIII.—Fig. 5.]

PEALE'S *Museum*, *No.* 4159, *male*—4160, *female.*

OF this neat and prettily marked species I can find no account, and have concluded that it has hitherto escaped the eye of the naturalist. The bird, of which the figure in the plate is a correct resemblance, was shot the thirteenth of May, 1813, on the shore of Cape-Island, New Jersey, by my ever-regretted friend; and I have honoured it with his name. It was a male, and was accompanied by another of the same sex, and a female, all of which were fortunately obtained.

This bird very much resembles the Ring Plover, except in the length and colour of the bill, its size, and in wanting the yellow eyelids. The males and females of this species differ in their markings, but the Ring Plovers nearly agree. We conversed with some sportsmen of Cape May, who asserted that they were acquainted with these birds, and that they sometimes made their appearance in flocks of considerable numbers; others had no knowledge of them. That the species is rare, we were well convinced, as we had diligently explored the shore of a considerable part of Cape May, in the vicinity of Great Egg-harbour, many times, at different seasons, and had never seen them before. How long they remain on our coast, and where they winter, we are unable to say. From the circumstance of the oviduct of the female being greatly enlarged, and containing an egg half grown, apparently within a week of being ready for exclusion, we concluded that they breed there. Their favourite places of resort appear to be the dry sand flats on the seashore. They utter an agreeable piping note; and run swiftly.

This species is eight inches in length, and fifteen and a half

in extent; the bill is black, stout, and an inch long, the upper mandible projecting considerably over the lower; front white, passing on each side to the middle of the eye above, and bounded by a band of black of equal breadth; lores black; eyelids white; eye large and dark; from the middle of the eye, backwards, the stripe of white becomes duller, and extends for half an inch; the crown, hind-head and auriculars, are drab olive; the chin, throat, and sides of the neck for an inch, pure white, passing quite round the neck, and narrowing to a point behind; the upper breast below this is marked with a broad band of jet black; the rest of the lower parts pure white; upper parts pale olive drab; along the edges of the auriculars, and hind-head, the plumage, where it joins the white, is stained with raw terra sienna; all the plumage is darkest in the centre; the tertials are fully longer than the primaries, the latter brownish black, the shafts and edges of some of the middle ones white; secondaries, and greater coverts, slightly tipped with white; the legs are of a pale flesh colour; toes bordered with a narrow edge; claws and ends of the toes black; the tail is even, a very little longer than the wings, and of a blackish olive colour, with the exception of the two exterior feathers, which are whitish, but generally only the two middle ones are seen.

The female differs in having no black on the forehead, lores, or breast, these parts being pale olive.*

Since publishing the foregoing, Mr. T. R. Peale and myself, in an excursion, in the month of May, on the coast of New Jersey, found this species to be pretty common, in the vicinity of Brigantine beach. We also observed them in various places between Great Egg-harbour and Long-beach. *G. Ord.*

* From Mr. Ord's supplementary volume.

SPECIES 4. *CHARADRIUS VOCIFERUS.*

KILDEER PLOVER.

[Plate LIX.—Fig. 6.]

Arct. Zool. No. 400.—Catesby, i, 71.—*Le Kildir*, Buff. viii, 96. —Peale's *Museum*, *No.* 4174.*

This restless and noisy bird is known to almost every inhabitant of the United States, being a common and pretty constant resident. During the severity of winter, when snow covers the ground, it retreats to the seashore, where it is found at all seasons; but no sooner have the rivers broke up, than its shrill note is again heard, either roaming about high in air, tracing the shore of the river, or running amidst the watery flats and meadows. As spring advances, it resorts to the newly ploughed fields, or level plains bare of grass, interspersed with shallow pools; or, in the vicinity of the sea, dry bare sandy fields. In some such situation it generally chooses to breed, about the beginning of May. The nest is usually slight, a mere hollow, with such materials drawn in around it as happen to be near, such as bits of sticks, straw, pebbles, or earth. In one instance, I found the nest of this bird paved with fragments of clam and oyster shells, and very neatly surrounded with a mound or border of the same, placed in a very close and curious manner. In some cases there is no vestige whatever of a nest. The eggs are usually four, of a bright rich cream, or yellowish clay colour, thickly marked with blotches of black. They are large for the size of the bird, measuring more than an inch and a half in length, and a full inch in width, tapering to a narrow point at the great end.

* *Charadrius vociferus*, Gmel. *Syst*, i, *p.* 685, *No.* 3.—*Pluvier a collier de Virginie*, Briss. v, *p.* 68.—Lath. *Ind. Orn. p.* 742, *No.* 6.—*Pl. Enl.* 286.

Nothing can exceed the alarm and anxiety of these birds during the breeding season. Their cries of *kildeer, kildeer*, as they winnow the air over head, dive and course around you, or run along the ground counterfeiting lameness, are shrill and incessant. The moment they see a person approach, they fly or run to attack him with their harassing clamour, continuing it over so wide an extent of ground, that they puzzle the pursuer as to the particular spot where the nest or young are concealed; very much resembling, in this respect, the Lapwing of Europe. During the evening, and long after dusk, particularly in moonlight, their cries are frequently heard with equal violence, both in the Spring and Fall. From this circumstance, and their flying about both after dusk, and before dawn, it appears probable that they see better at such times than most of their tribe. They are known to feed much on worms, and many of these rise to the surface during the night. The prowling of Owls, may also alarm their fears for their young at those hours; but whatever may be the cause, the facts are so.

The Kildeer is more abundant in the southern states in winter than in summer. Among the rice fields, and even around the planters' yards in South Carolina, I observed them very numerous, in the months of February and March. There the negro boys frequently practise the barbarous mode of catching them with a line, at the extremity of which is a crooked pin, with a worm on it. Their flight is something like that of the Tern, but more vigorous; and they sometimes rise to a great height in the air. They are fond of wading in pools of water; and frequently bathe themselves during the summer. They usually stand erect on their legs, and run or walk with the body in a stiff hortzontal position; they run with great swiftness, and are also strong and vigorous in the wings. Their flesh is eaten by some, but is not in general esteem, though others say, that in the Fall, when they become very fat, it is excellent.

During the extreme droughts of summer, these birds resort to the gravelly channel of brooks and shallow streams, where they can wade about in search of aquatic insects. At the close

of summer they generally descend to the seashore, in small flocks, seldom more than ten or twelve being seen together. They are then more serene and silent, as well as difficult to be approached.

The Kildeer is ten inches long, and twenty inches in extent; the bill is black; frontlet, chin, and ring round the neck, white; fore part of the crown, and auriculars from the bill backwards, blackish olive; eyelids bright scarlet; eye very large, and of a full black; from the centre of the eye backwards a stripe of white; round the lower part of the neck is a broad band of black; below that a band of white, succeeded by another rounding band or crescent of black; rest of the lower parts pure white; crown and hind-head light olive brown; back, scapulars, and wing-coverts, olive brown, skirted with brownish yellow; primary quills black; streaked across the middle with white; bastard wing tipt with white; greater coverts broadly tipt with white; rump and tail-coverts orange; tail tapering, dull orange, crossed near the end with a broad bar of black, and tipt with orange, the two middle feathers near an inch longer than the adjoining ones; legs and feet a pale light clay colour. The tertials, as usual in this tribe, are very long, reaching nearly to the tips of the primaries; exterior toe joined by a membrane to the middle one, as far as the first joint.

SPECIES 5. CHARADRIUS PLUVIALIS.

GOLDEN PLOVER.

[Plate LIX.—Fig. 5.]

Arct. Zool. p. 493, *No.* 399.—Bewick, i, 322.—*Le Pluvier doré*, Buff. viii, 81.—*Pl. Enl.* 904.—Peale's *Museum*, *No.* 4198.*

This beautiful species visits the seacoast of New York and New Jersey in spring and autumn; but does not, as far as I can discover, breed in any part of the United States. They are most frequently met with in the months of September and October; soon after which they disappear. The young birds of the great Black-bellied Plover are sometimes mistaken for this species. Hence the reason why Mr. Pennant remarks his having seen a variety of the Golden Plover, with black breasts, which he supposed to be the young.†

The Golden Plover is common in the northern parts of Europe. It breeds on high and heathy mountains. The female lays four eggs, of a pale olive colour, variegated with blackish spots. They usually fly in small flocks, and have a shrill whistling note. They are very frequent in Siberia, where they likewise breed; extend also to Kamtschatka, and as far south as the Sandwich isles. In this latter place, Mr. Pennant remarks, "they are very small."

Although these birds are occasionally found along our sea-

* We add the following synonymes from Prince Musignano's "Observations:"—*Charadrius pluvialis*, Linn. Gmel. Lath. winter dress. Temm. Vieill.—*Charadrius apricarius*, Linn. Gmel. Lath. summer dress, (not of Wilson, which is a four-toed bird, *Vanellus helveticus.*)—*Pluvialis aurea*, Briss. winter dress.—*Pluvialis aurea minor*, Briss. winter dress.—*Pluvialis dominicensis aurea*, Briss. winter dress.—*Pluvialis aurea Freti Hudsonis*, Briss. summer dress.—*Le Pluvier d'ore*, Buff. *Pl. Enl.* 904, winter dress.

† Arct. Zool. p. 484.

coast, from Georgia to Maine, yet they are no where numerous; and I have never met with them in the interior. Our mountains being generally covered with forest, and no species of heath having, as yet, been discovered within the boundaries of the United States, these birds are probably induced to seek the more remote arctic regions of the continent to breed and rear their young in, where the country is more open, and unincumbered with woods.

The Golden Plover is ten inches and a half long, and twenty-one inches in extent; bill short, of a dusky slate colour; eye very large, blue black; nostrils placed in a deep furrow, and half covered with a prominent membrane; whole upper parts black, thickly marked with roundish spots of various tints of golden yellow; wing-coverts, and hind part of the neck, pale brown, the latter streaked with yellowish; front, broad line over the eye, chin, and sides of the same, yellowish white, streaked with small pointed spots of brown olive; breast gray, with olive and white; sides under the wings marked thinly with transverse bars of pale olive; belly and vent white; wing quills black, the middle of the shafts marked with white; greater coverts black, tipt with white; tail rounded, black, barred with triangular spots of golden yellow; legs dark dusky slate; feet three-toed, with generally the slight rudiments of a heel, the outer toe connected as far as the first joint with the middle one. The male and female differ very little in colour.

SPECIES 6. *CHARADRIUS APRICARIUS.**

BLACK-BELLIED PLOVER.

[Plate LVII.—Fig. 4.]

Alwagrim Plover, Arct. Zool. p. 483, *No.* 398.—*Le Pluvier doré a gorge noire,* Buff. viii, 85.—Peale's *Museum, No.* 4196.

This bird is known in some parts of the country by the name of the large Whistling Field Plover. It generally makes its first appearance in Pennsylvania late in April; frequents the countries towards the mountains; seems particularly attached to newly ploughed fields, where it forms its nest of a few slight materials, as slightly put together. The female lays four eggs, large for the size of the bird, of a light olive colour, dashed with black; and has frequently two broods in the same season. It is an extremely shy and watchful bird, though clamorous during breeding time. The young are without the black colour on the breast and belly until the second year, and the colours of the plumage above are likewise imperfect till then. They feed on worms, grubs, winged insects, and various kinds of berries, particularly those usually called dew-berries, and are at such times considered exquisite eating. About the beginning of September, they descend with their young to the seacoast,

* *Charadrius Helveticus,* Bonaparte, *Journal* Acad. Nat. Sc. v, p. 103. *Ann. Lyc.* ii *p.* 298—*Vanellus Helveticus,* Briss. v, *p.* 107, *pl.* 10. *fig.* 1. Summer dress. Ord's *reprint,* vii, *p.* 42.—*Vanellus griseus, Id.* p. 100, pl. 9, fig. 1, winter dress. —*Vanellus varius, Id. p* 103, *pl.* 9, *fig.* 2, young.—*Tringa Helvetica,* Lath. *Ind. Orn.* p. 728, No. 10, summer dress of the adult.—*T. squatarola, Id. p.* 729, *No.* 11, winter plumage.—*Le Vanneau varie,* Buff. *Pl. Enl.* 923, winter dress.—*Le Vanneau gris, Id.* 854, young.—*Le Vanneau suisse, Id.* 853, summer dress of adult.—*Gray Sandpiper, Arct. Zool.* No. 393.—*Swiss Sandpiper, Id. No.* 396.—*British Zool.* No. 191.—Edwards iii, pl. 140.—*Vanellus melanozaster,* Bechstein, iv, p. 356.—Lath. *Syn.* iii, p. 167, No. 10; p. 168, No. 11; p. 169, Var. A.—*Id. Supp. p.* 248.—Temm. *Man. d'Orn.* 549.

and associate with the numerous multitudes then returning from their breeding places in the north. At this season they abound on the plains of Long Island. They have a loud whistling note; often fly at a great height; and are called by many gunners along the coast, the Black-bellied Kildeer. The young of the first year have considerable resemblance to those of the Golden Plover; but may be easily distinguished from this last by the largeness of their head and bill, and in being at least two inches more in length. The greater number of those which I have examined have the rudiments of a hind toe; but the character and manners of the Plover are so conspicious in the bird, as to determine, at the first glance, the tribe it belongs to. They continue about the seacoast until early in November, when they move off to the south.

This same bird, Mr. Pennant informs us, inhabits all the north of Europe, Iceland, Greenland, and Hudson's Bay, and all the arctic part of Siberia. It is said, that at Hudson's Bay it is called the Hawk's-eye, on account of its brilliancy. It appears, says the same author, in Greenland in the spring, about the southern lakes, and feeds on worms and berries of the heath.

This species is twelve inches long, and twenty-four inches in extent; the bill is thick, deeply grooved on the upper mandible an inch and a quarter in length, and of a black colour; the head and globe of the eye are both remarkably large, the latter deep bluish black; forehead white; crown and hind-head black, spotted with golden yellow; back and scapulars dusky, sprinkled with the same golden or orange coloured spots, mixed with others of white; breast, belly and vent black; sides of the breast whitish; wing quills black, middle of the shafts white; greater coverts black, tipt with white; lining of the wing black; tail regularly barred with blackish and pure white; tail-coverts pure white; legs and feet a dusky lead colour; the exterior toe joined to the middle by a broad membrane; hind toe very small.

From the length of time which these birds take to acquire their full colours, they are found in very various stages of plumage. The breast and belly are at first white, gradually appear

mottled with black, and finally become totally black. The spots of orange, or golden, on the crown, hind-head and back, are at first white, and sometimes even the breast itself is marked with these spots, mingled among the black. In every stage, the seemingly disproportionate size of the head, and thickness of the bill, will distinguish this species.

Note. Mr. Ord furnishes the following additional information respecting this species in his reprint of the seventh volume of Wilson.

An adult male, shot the 26th April, near Philadelphia, measured eleven inches in length; space between the eye and bill, and cheeks, black; throat, and thence down the breast and belly, as far as the thighs, black, with white intermixed; front pure white, which extends in a narrow line over the eyes, bordering the black of the neck, as far as the breast; crown, and thence down the back part of the neck, brown and white; upper parts, with wing-coverts, banded with white and black, with some ashy brown feathers interspersed, the whole presenting an irregularly spotted appearance—the back, scapulars and tertials with greenish reflections; lower part of abdomen, thighs, vent, lining of the wings, and under tail-coverts, pure white, the exterior vanes of the last spotted with brown black; sides under the wings very pale ash, with faint ashy brown bars; upper tail-coverts white, with narrow ashy brown bars, which increase in size, and become darker, up the rump; the upper part of the inner webs of the primaries white; bill, legs and feet, of a shining black; no golden or orange coloured spots. The parts not mentioned agreeing with those of the foregoing.

Another adult male, shot at Egg-Harbour, on the 10th of May, was twelve inches in length, and had its cheeks, lores, throat, middle of the breast and belly, as far as the thighs, black; the *long feathers of the sides*, at the junction of the wings, also black; feathers of the crown ash, centred with black, and tipt with white; back brownish black, plumage broadly tipt with white; wing-coverts brown ash and black, broadly spotted and

tipt with white; tail white, broadly barred with black; no golden spots.

An adult female, shot at Egg-Harbour, on the 26th May, was twelve inches in length; upper parts olive brown, spotted with black and white, the *long feathers of the sides*, at the junction of the wings, black; wings crossed with a broad band of white, immediately under their coverts, spreading over their shafts; secondaries pale olive, edged and tipt with white; primaries, and their coverts, black; throat and sides of the neck white, spotted with dark olive; breast and belly, as far as the thighs, black, intermixed with white; legs and feet deep purplish slate. The black of the lower parts was not so deep as that of the foregoing male. Her eggs were small.

A young male, shot at Egg-Harbour, in the month of October, had whitish spots on a brownish black ground; crown nearly black, spotted with brownish yellow; breast, throat and eye-brows, pure white; the *long feathers of the sides*, at the junction of the wings, black; legs and feet lead-coloured.

A young bird in Peale's collection, supposed to be a male of the first year, has its head, neck, and whole upper parts, brown ash or dark gray, spotted with white; breast white, with pale brown ash intermixed; lower part of the abdomen, and under tail-coverts, white; tail white, with large bars of ashy brown; lining of the wings white; the *long feathers of the sides*, at the junction of the wings, dusky; primaries paler than in the adult, but similarly marked with white. It has no golden or orange coloured spots.

I have little doubt that the Black-bellied Plover described by Pennant as common at Hudson's bay, and called there Hawk's-eye, is this speces, although authors record it among the synonymes of the Golden Plover, in its spring dress. The hind toe of this species is very small and slender; and in dried specimens it adheres so closely to the tarsus that it is frequently overlooked. It likewise is liable to be rubbed off; this accident probably occurred to the specimen figured and described by Edwards, under the name of Spotted Plover; for I have no hesitation in pro-

nouncing it to be of the same species with the subject of this article. The bird figured in the British Zoology of Pennant, as the Golden Plover, (Plate LXXII,) appears to be the young of this species, in its winter dress; for it is represented with a hind toe, which the true Golden Plover is never furnished with. Hence we must conclude that those authors, who describe the latter as having *sometimes* a hind toe, confound the young of the two species, which in truth so nearly resemble each other in their plumage that it requires a close observation to distinguish them. But the young of the Black-bellied Plover, or present species, may be known by their large head and stout bill; by their hind toe; and by the long dusky or black feathers which lie next to the sides, at the junction of the wings.

In the Manuel d'Ornithologie of Temminck, unquestionably the best work on the birds of Europe which has ever been published, the changes which this species undergoes are clearly detailed; and its synonymes are so well settled, that the future ornithologist will find his labours much lightened, when the subject of this article, in any stage of plumage, shall come before him. In the excellent Supplement to Montagu's Ornithological Dictionary we are also presented with some valuable references; and the editor of this volume with pleasure acknowledges the sources whence he has drawn that information which has enabled him to determine the species.

*SPECIES 7. CHARADRIUS CALIDRIS.**

SANDERLING PLOVER.

[Plate LIX.—Fig. 4.†]

Linn. *Syst.* 255.—*Arct. Zool. p.* 486, *No.* 403.—*Le Sanderling*, Buff. vii, 532.—Bewick, ii, 19.—Peale's *Museum*, *No.* 4204.

In this well known bird we have another proof of the imperfection of systematic arrangement, where no attention is paid to the general habits; but where one single circumstance is sometimes considered sufficient to determine the species. The genus Plover is characterized by several strong family traits, one of which is that of wanting the hind toe. The Sandpipers have also their peculiar external characters of bill, general form, &c., by which they are easily distinguished from the former. The present species, though possessing the bill, general figure, manners and voice, of the Sandpipers, feeding in the same way, and associating with these in particular; yet, wanting the hind toe, has been classed with the Plovers, with whom, this single circumstance excepted, it has no one characteristic in common. Though we have not, in the present instance, presumed to alter this arrangement, yet it appears both reasonable and natural, that where the specific characters in any bird seem to waver between two species, that the figure, voice and habits of the equivocal one should always be taken into consideration, and be allowed finally to determine the class to which it belongs. Had this rule been followed in the present instance, the bird we are

* *Calidris arenaria*, Ord's *reprint*, vol. vii, p. 72.—*Tringa arenaria*, Gmel. *Syst.* i, p. 680, No. 16.—Lath. *Syn.* iii, 197, No. 4.—*Ind. Orn.* p. 741, No. 4.—*Calidris grisea minor*, Briss. v, p. 236, pl. 20, *fig* 2.—Temm. *Man. d'Orn.* p. 524.

† Winter dress.

now about to describe would have undoubtedly been classed with the Sandpipers.*

The history of this species has little in it to excite our interest or attention. It makes its appearance on our seacoasts early in September; continues during the greater part of winter; and on the approach of spring, returns to the northern regions to breed. While here, it seems perpetually busy, running along the wave-worn strand, following the flux and reflux of the surf, eagerly picking up its food from the sand, amid the roar of the ocean. It flies in numerous flocks, keeping a low meandering course along the ridges of the tumbling surf. On alighting, the whole scatter about after the receding wave, busily picking up those minute bivalves already described. As the succeeding wave returns, it bears the whole of them before it in one crowded line; then is the moment siezed by the experienced gunner to sweep them in flank, with his destructive shot. The flying survivors, after a few aerial meanders, again alight, and pursue their usual avocation, as busily and unconcernedly as before. These birds are most numerous on extensive sandy beaches in front of the ocean. Among rocks, marshes, or stones covered with sea-weed, they seldom make their appearance.

The Sanderling is eight inches long, and fourteen inches in extent; the bill is black, an inch and a quarter in length, slender, straight, fluted along the upper mandible, and exactly formed like that of the Sandpiper; the head, neck above, back, scapulars and tertials, are gray white; the shafts blackish, and the webs tinged with brownish ash; shoulder of the wing black; greater coverts broadly tipt with white; quills black, crossed with a transverse band of white; the tail extends a little beyond the wings, and is of a grayish ash colour, edged with white, the two middle feathers being about half an inch longer than the others; eye dark hazel; whole lower parts of the plumage pure white;

* It is now arranged by naturalists in the genus *Calidris*, of Illiger; a genus constructed expressly for this bird; and it is the only species of the genus yet discovered.

legs, and naked part of the thighs, black; feet three-toed, each divided to its origin, and bordered with a narrow membrane.

Such are the most common markings of this bird, both of males and females, particularly during the winter; but many others occur among them, early in the autumn, thickly marked or spotted with black on the crown, back, scapulars and tertials, so as to appear much mottled, having as much black as white on those parts. In many of these I have observed the plain gray plumage coming out about the middle of October; so that, perhaps, the gray may be their winter, and the spotted their summer, dress.

I have also met with many specimens of this bird, not only thickly speckled with white and black above, but also on the neck, and strongly tinged on both with ferruginous; in which dress it has been mistaken by Mr. Pennant and others for a new species; the description of his "Ruddy Plover" agreeing exactly with this.* A figure of the Sanderling, in this state of plumage will be introduced in some part of the present work.

* See Arct. Zool. p. 486, No. 404.

*CHARADRIUS RUBIDUS.**

RUDDY PLOVER.

[Plate LXIII.—Fig. 3.]

Arct. Zool. No. 404.—Lath. *Syn. v.* 3, *p.* 195, *No.* 2.—Turt. *Syst. p.* 415.

This bird is frequently found in company with the Sanderling, which, except in colour, it very much resembles. It is generally seen on the seacoast of New Jersey in May and October, on its way to and from its breeding place in the north. It runs with great activity along the edge of the flowing or retreating waves, on the sands, picking up the small bivalve shellfish, which supply so many multitudes of the Plover and Sandpiper tribes.

I should not be surprised if the present species turn out hereafter to be the Sanderling itself, in a different dress. Of many scores which I examined, scarce two were alike; in some the plumage of the back was almost plain; in others the black plumage was just shooting out. This was in the month of October. Naturalists, however, have considered it as a separate species; but have given us no further particulars, than that "in Hudson's Bay it is known by the name of Mistchaychekiskaweshish"† a piece of information certainly very instructive!

The Ruddy Plover is eight inches long, and fifteen in extent; the bill is black, an inch long, and straight; sides of the neck, and whole upper parts, speckled largely with white, black and ferruginous; the feathers being centred with black, tipt with white, and edged with ferruginous, giving the bird a very mot-

* This is the preceding species in perfect summer plumage.

† Latham.

ley appearance; belly and vent pure white; wing quills black, crossed with a band of white; lesser coverts whitish, centred with pale olive, the first two or three rows black; two middle tail feathers black; the rest pale cinereous, edged with white; legs and feet black; toes bordered with a very narrow membrane. On dissection, both males and females varied in their colours and markings.

GENUS 76. HÆMATOPUS. OYSTER-CATCHER.

*SPECIES. H. OSTRALEGUS.**

PIED OYSTER-CATCHER.

[Plate LXIV.—Fig. 2.]

Arct. Zool. No. 406.—Lath. *Syn.* III, *p.* 219.—Catesby, I, 85. —Bewick, II, 23.—Peale's *Museum, No.* 4258.

This singular species, although nowhere numerous, inhabits almost every seashore, both on the new and old continent, but is never found inland. It is the only one of its genus hitherto discovered, and from the conformation of some of its parts one might almost be led by fancy to suppose, that it had borrowed the eye of the Pheasant, the legs and feet of the Bustard, and the bill of the Woodpecker.

The Oyster-catcher frequents the sandy sea beach of New Jersey, and other parts of our Atlantic coast in summer, in small parties of two or three pairs together They are extremely shy, and, except about the season of breeding, will seldom permit a person to approach within gun shot. They walk along the shore in a watchful stately manner, at times probing it with their long wedge-like bills in search of small shell-fish. This appears evident on examining the hard sands where they usually resort, which are found thickly perforated with oblong holes two or three inches in depth. The small crabs called *fiddlers*, that burrow in the mud at the bottom of inlets, are frequently the prey of the Oyster-catcher; as are muscles, spout-fish, and a variety of other shell-fish and sea insects with which those shores abound.

* Gmel. *Syst.* I, *p.* 694.—Lath. *Ind. Orn. p.* 752.—*Gen. Syn.* III, *p.* 219.—Stephens, *Gen. Zool.* XI, *p.* 494, *pl.* 36.—*L'Huîtrier*, Buff. VIII, *p.* 119, *pl.* 9. —*Pl. Enl. No.* 929.—Temm. *Man d'Orn. p.* 531.

The principal food, however, of this bird, according to European writers, and that from which it derives its name, is the oyster, which it is said to watch for, and snatch suddenly from the shells, whenever it surprises them sufficiently open. In search of these it is reported that it often frequents the oyster beds, looking out for the slightest opening through which it may attack its unwary prey. For this purpose the form of its bill seems very fitly calculated. Yet the truth of these accounts are doubted by the inhabitants of Egg Harbour and other parts of our coast, who positively assert that it never haunts such places, but confines itself almost solely to the sands. And this opinion I am inclined to believe correct; having myself uniformly found these birds on the smooth beach bordering the ocean, and on the higher dry and level sands, just beyond the reach of the summer tides. On this last situation, where the dry flats are thickly interspersed with drifted shells, I have repeatedly found their nests, between the middle and twenty-fifth of May. The nest itself is a slight hollow in the sand, containing three eggs, somewhat less than those of a hen, and nearly of the same shape, of a bluish cream colour, marked with large roundish spots of black, and others of a fainter tint. In some the ground cream colour is destitute of the bluish tint, the blotches larger, and of a deep brown. The young are hatched about the twenty-fifth of May, and sometimes earlier, having myself caught them running along the beach about that period. They are at first covered with down of a grayish colour, very much resembling that of the sand, and marked with a streak of brownish black on the back, rump and neck, the breast being dusky, where in the old ones it is black. The bill is at that age slightly bent downwards at the tip, where, like most other young birds, it has a hard protuberance that assists them in breaking the shell; but in a few days afterwards this falls off.* These run along the shore with great ease and swiftness.

* Latham observes, that the young are said to be hatched in about three weeks; and though they are wild when in flocks, yet are easily brought up tame if taken young. "I have known them," says he, "to be thus kept

The female sits on her eggs only during the night, or in remarkably cold and rainy weather; at other times the heat of the sun and of the sand, which is sometimes great, renders incubation unnecessary. But although this is the case, she is not deficient in care or affection. She watches the spot with an attachment, anxiety and perseverance that are really surprising, till the time arrives when her little offspring burst their prisons, and follow the guiding voice of their mother. When there is appearance of danger they squat on the sand, from which they are with difficulty distinguished, while the parents make large circuits around the intruder, alighting sometimes on this hand, sometimes on that, uttering repeated cries, and practising the common affectionate stratagem of counterfeited lameness to allure him from their young.

These birds run and fly with great vigour and velocity. Their note is a loud and shrill whistling *wheep—wheep—wheo,* smartly uttered. A flock will often rise, descend, and wheel in air with remarkable regularity, as if drilled to the business, the glittering white of their wings at such times being very conspicuous. They are more remarkable for this on their first arrival in the spring. Some time ago I received a stuffed specimen of the *Oyster-catcher* from a gentleman of Boston, an experienced sportsman, who nevertheless was unacquainted with this bird. He informed me that two very old men to whom it was shown called it a *Hagdel.* He adds, "it was shot from a flock which was first discovered on the beach near the entrance of Boston harbour. On the approach of the gunner they rose and instantly formed in line, like a corps of troops, and advanced in perfect order, keeping well dressed. They made a number of circuits in the air previous to being shot at, but wheeled in line; and the man who fired into the flock, observed that all their evolutions were like a regularly organized military company."

for a long time, frequenting the ponds and ditches during the day, attending the ducks and other poultry to shelter of nights, and not unfrequently to come up of themselves as evening approaches. *Gen. Synop. vol.* III, *p.* 220.

The Oyster-catcher will not only take to the water when wounded, but can also swim and dive well. This fact I can assert from my own observation, the exploits of one of them in this way having nearly cost me my life. On the sea beach of Cape May, not far from a deep and rapid inlet, I broke the wing of one of these birds, and being without a dog, instantly pursued it towards the inlet, which it made for with great rapidity. We both plunged in nearly at the same instant; but the bird eluded my grasp, and I sunk beyond my depth; it was not until this moment that I recollected having carried in my gun along with me. On rising to the surface I found the bird had dived, and a strong ebb current was carrying me fast towards the ocean, encumbered with a gun and all my shooting apparatus; I was compelled to relinquish my bird, and to make for the shore, with considerable mortification, and the total destruction of the contents of my powderhorn. The wounded bird afterwards rose, and swam with great buoyancy out among the breakers.

On the same day I shot and examined three individuals of this species, two of which measured each eighteen inches in length, and thirty-five inches in extent; the other was somewhat less. The bills varied in length, measuring three inches and three quarters, three and a half, and three and a quarter, thinly compressed at the point, very much like that of the Woodpecker tribe, but remarkably narrowed near the base where the nostrils are placed, probably that it may work with more freedom in the sand. This instrument for two-thirds of its length towards the point, was evidently much worn by digging; its colour a rich orange scarlet, somewhat yellowish near the tip; eye large, orbits of the same bright scarlet as the bill, irides brilliant yellow, pupil small, bluish black; under the eye is a small spot of white, and a large bed of the same on the wing coverts; head, neck, scapulars, rump, wing quills, and tail black; several of the primaries are marked on the outer vanes with a slanting band of white; secondaries white, part of them tipt with black; the whole lower parts of the body, sides of the rump, tail co-

verts, and that portion of the tail which they cover, are pure white; the wings, when shut, cover the whole white plumage of the back and rump; legs and naked part of the thighs pale red; feet three toed, the outer joined to the middle by a broad and strong membrane, and each bordered with a rough warty edge; the soles of the feet are defended from the hard sand and shells by a remarkably thick and callous warty skin.

On opening these birds the smallest of the three was found to be a male; the gullet widened into a kind of crop; the stomach, or gizzard, contained fragments of shell-fish, pieces of crabs, and of the great king-crab, with some dark brown marine insects. The flesh was remarkably firm and muscular, the skull thick and strong, intended no doubt, as in the Woodpecker tribe, for the security of the brain from the violent concussions it might receive while the bird was engaged in digging. The female and young birds have the back and scapulars of a sooty brownish olive.

This species is found as far south as Cayenne and Surinam. Dampier met with it on the coast of New Holland; the British circumnavigators also saw it on Van Diemen's Land, Terra del Fuego, and New Zealand.

GENUS 78. RALLUS. RAIL,

SPECIES 1. *R. CREPITANS.*

CLAPPER RAIL.

[Plate LXII.—Fig. 2.]

Arct. Zool. No. 407.—Turt. *Syst. p.* 430.—Lath. *Syn. v.* 3, *p.* 229, *No.* 2.—Peale's *Museum, No.* 4400.

This is a very numerous and well known species, inhabiting our whole Atlantic coast from New England to Florida. It is designated by different names, such as the Mud-hen, Clapper Rail, Meadow-clapper, Big Rail, &c. &c. Though occasionally found along the swampy shores, and tide waters, of our large rivers, its principal residence is in the salt marshes. It is a bird of passage, arriving on the coast of New Jersey about the twentieth of April, and retiring again late in September. I suspect that many of them winter in the marshes of Georgia and Florida, having heard them very numerous, at the mouth of Savannah river, in the month of February. Coasters and fishermen often hear them while on their migrations, in spring, generally a little before daybreak. The shores of New Jersey, within the beach, consisting of an immense extent of flat marsh, covered with a coarse reedy grass, and occasionally overflowed by the sea, by which it is also cut up into innumerable islands by narrow inlets, seem to be the favourite breeding place for these birds, as they are there acknowledged to be more than double in number to all other marsh fowl.

The Clapper Rail, or as it is generally called, the Mud-hen, soon announces its arrival in the salt marshes, by its loud, harsh and incessant cackling, which very much resembles that of a Guinea fowl. This noise is most general during the night; and is said to be always greatest before a storm. About the twenti-

eth of May, they generally commence laying and building at the same time; the first egg being usually dropt in a slight cavity, lined with a little dry grass, pulled for the purpose, which, as the number of the eggs increase to their usual complement, *ten*, is gradually added to, until it rises to the height of twelve inches or more, doubtless to secure it from the rising of the tides. Over this, the long salt grass is artfully arched, and knit at top, to conceal it from the view above: but this very circumstance enables the experienced egg-hunter to distinguish the spot at the distance of thirty or forty yards, though imperceptible to a common eye. The eggs are of a pale clay colour, sprinkled with small spots of dark red, and measure somewhat more than an inch and a half in length, by one inch in breadth, being rather obtuse at the small end. These eggs are exquisite eating, far surpassing those of the domestic hen. The height of laying is about the first of June, when the people of the neighbourhood go off to the marshes *an egging*, as it is called. So abundant are the nests of this species, and so dexterous some persons at finding them, that one hundred dozens of eggs have been collected by one man in a day. At this time the crows, the foxes, and the minxes, come in for their share; but not content with the eggs, these last often seize and devour the parents also. The bones, feathers, wings, &c. of the poor Mud-hen lie in heaps near the hole of the minx; by which circumstance, however, he himself is often detected and destroyed.

These birds are also subject to another calamity, of a more extensive kind. After the greater part of the eggs are laid, there sometimes happen violent north-east tempests, that drive a great sea into the bay, covering the whole marshes; so that at such times the Rail may be seen in hundreds, floating over the marsh in great distress; many escape to the main land; and vast numbers perish. On an occasion of this kind I have seen, at one view, thousands in a single meadow, walking about exposed and bewildered; while the dead bodies of the females, who had perished on or near their nests, were strewed along the shore. This last circumstance proves how strong the ties of maternal affection

are in these birds; for of the great numbers which I picked up and opened, not one male was to be found among them; all were females! such as had not yet begun to sit probably escaped. These disasters do not prevent the survivors from recommencing the work of laying and building anew; and instances have occurred, where their eggs have been twice destroyed by the sea; and yet in two weeks, the eggs and nests seemed as numerous as ever.

The young of the Clapper Rail very much resemble those of the Virginian Rail, except in being larger. On the tenth of August, I examined one of these young Clapper Rails, caught among the reeds in the Delaware, and apparently about three weeks old; it was covered with black down, with the exception of a spot of white on the auriculars, and a streak of the same along the side of the breast, belly, and fore part of the thigh; the legs were of a blackish slate colour; and the bill was marked with a spot of white near the point, and round the nostril. These run with great facility among the grass and reeds, and are taken with extreme difficulty.

The whole defence of this species seems to be in the nervous vigour of its limbs, and thin compressed form of its body, by which it is enabled to pass between the stalks of grass and reeds with great rapidity. There is also every where among the salt marshes, covered ways under the flat and matted grass, through which the Rail makes its way like a rat, without a possibility of being seen. There is generally one or more of these from its nest to the water edge, by which it may escape unseen; and sometimes, if closely pressed, it will dive to the other side of the pond, gut, or inlet, rising and disappearing again with the silence and celerity of thought. In smooth water it swims tolerably well, but not fast; sitting high in the water, with its neck erect, and striking with great rapidity. When on shore, it runs with the neck extended, the tail erect, and frequently flirted up. On fair ground, they run nearly as fast as a man; having myself, with great difficulty, caught some that were wing-broken. They have also the faculty of remaining under water for several min-

utes, clinging close, head downwards, by the roots of the grass. In a long stretch, they fly with great velocity, very much in the manner of a Duck, with extended neck, and generally low; but such is their aversion to take wing, that you may traverse the marshes, where there are hundreds of these birds, without seeing one of them; nor will they flush until they have led the dog through numerous labyrinths, and he is on the very point of seizing them.

The food of the Clapper Rail consists of small shell-fish, particularly those of the snail form, so abundant in the marshes; they also eat small crabs. Their flesh is dry, tastes sedgy, and will bear no comparison with that of the common Rail. Early in October, they move off to the south; and though, even in winter, a solitary instance of one may sometimes be seen, yet these are generally such as have been weak or wounded, and unable to perform the journey.

The Clapper Rail measures fourteen inches in length, and eighteen in extent; the bill is two inches and a quarter long, slightly bent, pointed, grooved, and of a reddish brown colour; iris of the eye dark red; nostril oblong, pervious; crown, neck and back, black, streaked with dingy brown; chin, and line over the eye, brownish white; auriculars dusky; neck before, and whole breast, of the same red brown as that of the preceding species; wing coverts dark chesnut; quill feathers plain dusky; legs reddish brown; flanks and vent black, tipt or barred with white. The males and females are nearly alike.

The young birds of the first year have the upper parts of an olive brown, streaked with pale slate; wings pale brown olive; chin, and part of the throat, white; breast ash colour, tinged with brown; legs and feet a pale horn colour. Mr. Pennant, and several other naturalists, appear to have taken their descriptions from these imperfect specimens, the Clapper Rail being altogether unknown in Europe.

I have never met with any of these birds in the interior at a distance from lakes or rivers. I have also made diligent inquiry

for them along the shores of lakes Champlain and Ontario, but without success.

Note.—Mr. T. Peale and myself had an opportunity of verifying the conjecture of the author, as to the winter retreat of these birds; we having found them to be extremely numerous in the marshes of the coast of Georgia, in the month of January. In such multitudes were they along the borders of the streams or passages, which separate the sea-islands from the main, that their loud and incessant noise became quite as disgusting as the monotonous cackle of that intolerable nuisance, the Guinea-fowl.

G. Ord.

SPECIES 2. RALLUS VIRGINIANUS

VIRGINIAN RAIL.

[Plate LXII.—Fig. 1.]

Arct. Zool. No. 408.—Edw. 279.—Lath. *Syn. v.* 3, *p.* 228, *No.* 1, *var. A.*—Peale's *Museum*, *No.* 4426.

This species very much resembles the European Water Rail, (*Rallus aquaticus*) but is smaller, and has none of the slate or lead colour on the breast, which marks that of the old continent; its toes are also more than proportionably shorter, which, with a few other peculiarities, distinguish the species. It is far less numerous in this part of the United States than our common Rail, and, as I apprehend, inhabits more remote northern regions. It is frequently seen along the borders of our salt marshes, which the other rarely visits; and also breeds there, as well as among the meadows that border our large rivers. It spreads over the interior as far west as the Ohio, having myself shot it in the barrens of Kentucky, early in May. The people there observe them in wet places, in the groves, only in spring. It feeds less on vegetable, and more on animal, food than the common Rail. During the months of September and October, when the reeds and wild oats swarm with the latter species, feeding on their nutricious seeds, a few of the present kind are occasionally found; but not one for five hundred of the others. The food of the present species consists of small snail shells, worms, and the larvæ of insects, which it extracts from the mud; hence the cause of its greater length of bill, to enable it the more readily to reach its food. On this account also, its flesh is much inferior to that of the other. In most of its habits, its thin compressed form of body, its aversion to take wing, and the dexterity with which it runs or conceals itself among the grass and sedge,

are exactly similar to those of the common Rail, from which genus, notwithstanding the difference of its bill, it ought not to be separated.

This bird is known to some of the inhabitants along the sea-coast of New Jersey, by the name of Fresh-water *Mud-hen*, this last being the common appellation of the Clapper Rail, which the present species resembles in every thing but size. The epithet Fresh-water, is given it because of its frequenting those parts of the marsh only, where fresh water springs rise through the bogs into the salt marshes. In these places it usually constructs its nest, one of which, through the active exertions of my friend, Mr. Ord, while traversing with me the salt marshes of Cape May, we had the good fortune to discover. It was built in the bottom of a tuft of grass, in the midst of an almost impenetrable quagmire, and was composed altogether of old wet grass and rushes. The eggs had been floated out of the nest by the extraordinary rise of the tide, in a violent north-east storm, and lay scattered about among the drift-weed. The female, however, still lingered near the spot, to which she was so attached, as to suffer herself to be taken by hand. She doubtless intended to repair her nest, and commence laying anew; as, during the few hours that she was in our possession, she laid one egg, corresponding in all respects with the others. On examining those floated out of the nest, they contained young, perfectly formed, but dead. The usual number of eggs is from six to ten. They are shaped like those of the domestic hen, measuring one inch and two-tenths long, by very nearly half an inch in width, and are of a dirty white, or pale cream colour, sprinkled with specks of reddish, and pale purple, most numerous near the great end. They commence laying early in May, and probably raise two brood in the season. I suspect this from the circumstance of Mr. Ord having, late in the month of July, brought me several young ones, of only a few days old, which were caught among the grass, near the border of the Delaware. The parent Rail showed great solicitude for their safety. They where wholly black, except a white spot on the bill; were covered with a fine

down, and had a soft piping note. In the month of June, of the same year, another pair of these birds began to breed amidst a boggy spring in one of Mr. Bartram's meadows; but were unfortunately destroyed.

The Virginian Rail is migratory, never wintering in the northern or middle states. It makes its first appearance in Pennsylvania early in May; and leaves the country on the first smart frosts, generally in November. I have no doubt but many of them linger in the low woods, and marshes, of the southern states, during winter.

This species is ten inches long, and fourteen inches in extent; bill dusky red; cheeks and stripe over the eye ash, over the lores, and at the lower eyelid, white; iris of the eye red; crown and whole upper parts black, streaked with brown, the centre of each feather being black; wing-coverts hazel brown, inclining to chestnut; quills plain deep dusky; chin white; throat, breast and belly, orange brown; sides and vent black, tipt with white; legs and feet dull red brown; edge of the bend of the wing white.

The female is about half an inch shorter, and differs from the male in having the breast much paler, not of so bright a reddish brown; there is also more white on the chin and throat.

When seen, which is very rarely, these birds stand or run with the tail erect, which they frequently jerk upwards. They fly with the legs hanging, generally but a short distance; and the moment they alight, run off with great speed.

SPECIES 3. *RALLUS CAROLINUS.*

RAIL.

[Plate XLVIII.—Fig. 1. *Male.*]

Soree, CATESB. I, 70.—*Arct. Zool. p.* 491, *No.* 409.—*Little American Water Hen*, EWD. 144.—*Le Râl de Virginie*, BUFF. VIII, 165.*

OF all our land or water fowl, perhaps none afford the sportsman more agreeable amusement, or a more delicious repast, than the little bird now before us. This amusement is indeed temporary, lasting only two or three hours in the day, for four or five weeks in each year; but as it occurs in the most agreeable and temperate of our seasons, is attended with little or no fatigue to the gunner, and is frequently successful, it attracts numerous followers, and is pursued, in such places as the birds frequent, with great eagerness and enthusiasm.

The natural history of the *Rail*, or as it is called in Virginia the *Sora*, and in South Carolina the *Coot*, is, to the most of our sportsmen, involved in profound and inexplicable mystery. It comes, they know not whence; and goes, they know not whither. No one can detect their first moment of arrival; yet all at once the reedy shores, and grassy marshes, of our large rivers swarm with them, thousands being sometimes found within the space of a few acres. These, when they do venture on wing, seem to fly so feebly, and in such short fluttering flights among the the reeds, as to render it highly improbable, to most people, that they could possibly make their way over an extensive tract of country. Yet, on the first smart frost that occurs, the whole suddenly disappear, as if they had never been.

* *Rallus Carolinus*, LIN. *Syst.* p. 153, *No.* 5, ed. 10.—*Gallinula Carolina*, LATH. *Ind. Orn. p.* 771, *No.* 17.

To account for these extraordinary phenomena, it has been supposed, by some, that they bury themselves in the mud; but as this is every year dug into by ditchers and people employed in repairing the banks, without any of those sleepers being found, where but a few weeks before these birds were innumerable, this theory has been generally abandoned. And here their researches into this mysterious matter generally end in the common exclamation of "What can become of them!" Some profound inquirers, however, not discouraged with these difficulties, have prosecuted their researches with more success; and one of those, living a few years ago near the mouth of James river, in Virginia, where the Rail or Sora are extremely numerous, has (as I was informed on the spot) lately discovered, that they change into *frogs!* having himself found in his meadows an animal of an extraordinary kind, that appeared to be neither a Sora nor a frog; but, as he expressed it, "something between the two." He carried it to his negroes, and afterwards took it home, where it lived three days, and in his own, and his negroes' opinion, it looked like nothing in this world but a real Sora, changing into a frog! What farther confirms this grand discovery, is the well known circumstance of the frogs ceasing to hollow as soon as the Sora comes in the Fall.

This sagacious discoverer, however, like many others renowned in history, has found but a few supporters; and except his own negroes, has not, as far as I can learn, made a single convert to his opinion. Matters being so circumstanced, and some explanation necessary, I shall endeavour to throw a little more light on the subject, by a simple detail of facts, leaving the reader to form his own theory as he pleases.

The Rail or Sora belongs to a genus of birds of which about thirty different species are enumerated by naturalists; and these are distributed over almost every region of the habitable parts of the earth. The general character of these is every where the same. They run swiftly, fly slowly, and usually with the legs hanging down; become extremely fat; are fond of concealment; and, wherever it is practicable, prefer running to flying.

Most of them are migratory, and abound during the summer in certain countries, the inhabitants of which have very rarely an opportunity of seeing them. Of this last the Land Rail of Britain is a striking example. This bird, which, during the summer months, may be heard in almost every grass and clover field in the kingdom, uttering its common note *crek, crek*, from sunset to a late hour in the night, is yet unknown, by sight, to more than nine-tenths of the inhabitants. "Its well known cry," says Bewick, "is first heard as soon as the grass becomes long enough to shelter it, and continues till the grass is cut; but the bird is seldom seen, for it constantly skulks among the thickest part of the herbage, and runs so nimbly through it, winding and doubling in every direction, that it is difficult to come near it; when hard pushed by the dog, it sometimes stops short, and squats down, by which means its too eager pursuer overshoots the spot, and loses the trace. It seldom springs but when driven to extremity, and generally flies with its legs hanging down, but never to a great distance; as soon as it alights it runs off, and before the fowler has reached the spot, the bird is at a considerable distance."* The *Water Crake*, or Spotted Rail of the same country, which in its plumage approaches nearer to our Rail, is another notable example of the same general habit of the genus. "Its common abode," says the same writer, "is in low swampy grounds, in which are pools or streamlets overgrown with willows, reeds and rushes, where it lurks and hides itself with great circumspection; it is wild, solitary and shy, and will swim, dive or skulk under any cover, and sometimes sufser itself to be knocked on the head, rather than rise before the sportsman and his dog." The Water Rail of the same country is equally noted for the like habits. In short, the whole genus possess this strong family character in a very remarkable degree.

These three species are well known to migrate into Britain early in spring, and to leave it for the more southern parts of Europe in autumn. Yet they are rarely or never seen in their

* Bewick's British Birds, vol. i, p. 308.

passage to or from the countries where they are regularly found at different seasons of the year; and this for the very same reasons, that they are so rarely seen even in the places where they inhabit.

It is not, therefore, at all surprising, that the regular migrations of the American Rail or Sora should, in like manner, have escaped notice in a country like this, whose population bears so small a proportion to its extent; and where the study of natural history is so little attended to. But that these migrations do actually take place, from north to south, and *vice versa*, may be fairly inferred from the common practice of thousands of other species of birds less solicitious of concealment, and also from the following facts.

On the twenty-second day of February I killed two of these birds in the neighbourhood of Savannah in Georgia, where they have never been observed during the summer. On the second of the May following, I shot another in a watery thicket below Philadelphia, between the rivers Schuylkill and Delaware, in what is usually called the *Neck*. This last was a male, in full plumage. We are also informed, that they arrive at Hudson's Bay early in June, and again leave that settlement for the south early in autumn. That many of them also remain here to breed is proved by the testimony of persons of credit and intelligence with whom I have conversed, both here and on James river in Virginia, who have seen their nests, eggs and young. In the extensive meadows that border the Schuylkill and Delaware, it was formerly common, before the country was so thickly settled there, to find young Rail in the first mowing time, among the grass. Mr. James Bartram, brother to the botanist, a venerable and still active man of eighty-three, and well acquainted with this bird, says, that he has often seen and caught young Rail in his own meadows in the month of June; he has also seen their nest, which he says is usually in a tussock of grass, is formed of a little dry grass, and has four or five eggs of a dirty whitish colour, with brown or blackish spots; the young run off as soon as they break the shell, are then quite black, and

run about among the grass like mice. The old ones he has very rarely observed at that time, but the young often. Almost every old settler along these meadows, with whom I have conversed, has occasionally seen young Rail in mowing time; and all agree in describing them as covered with blackish down. There can, therefore, be no reasonable doubt as to the residence of many of these birds both here and to the northward during the summer. That there can be as little doubt relative to their winter retreat, will appear more particularly towards the sequel of the present account. During their residence here, in summer, their manners exactly correspond with those of the Water Crake of Britain already quoted; so that, though actually a different species, their particular habits, common places of resort, and eagerness for concealment, are as nearly the same as the nature of the climates will admit.

Early in August, when the reeds along the shores of the Delaware have attained their full growth, the Rail resort to them in great numbers, to feed on the seeds of this plant, of which they, as well as the Rice-birds, and several others, are immoderately fond. These reeds, which appear to be the *Zizania panicula effusa* of Linnæus, and the *Zizania clavulosa* of Willdenow, grow up from the soft muddy shores of the tide water, which are alternately dry, and covered with four or five feet of water. They rise with an erect, tapering, stem to the height of eight or ten feet, being nearly as thick below as a man's wrist, and cover tracts along the river, of many acres. The cattle feed on their long green leaves with avidity, and wade in after them, as far as they dare safely venture. They grow up so close together that, except at or near high water, a boat can with difficulty make its way through among them. The seeds are produced at the top of the plant, the blossoms or male parts occupying the lower branches of the pannicle, and the seeds the higher. These seeds are nearly as long as a common-sized pin, somewhat more slender, white, sweet to the taste, and very nutritive, as appears by their effects on the various birds that, at this season, feed on them.

When the reeds are in this state, and even while in blossom, the Rail are found to have taken possession of them in great numbers. These are generally numerous in proportion to the full and promising crop of the former. As you walk along the embankment of the river, at this season, you hear them squeaking in every direction, like young puppies; if a stone be thrown among the reeds, there is a general outcry, and a reiterated *kuk kuk kuk*, something like that of a guinea-fowl. Any sudden noise, or the discharge of a gun, produces the same effect. In the meantime, none are to be seen, unless it be at or near high-water; for when the tide is low, they universally secrete themselves among the interstices of the reeds, and you may walk past, and even over them, where there are hundreds, without seeing a single individual. On their first arrival they are generally lean, and unfit for the table; but as the reeds ripen, they rapidly fatten, and from the twentieth of September to the middle of October are excellent, and eagerly sought after. The usual method of shooting them, in this quarter of the country, is as follows. The sportsman furnishes himself with a light batteau, and a stout experienced boatman, with a pole of twelve or fifteen feet long, thickened at the lower end, to prevent it from sinking too deep into the mud. About two hours or so before high-water, they enter the reeds, and each takes his post, the sportsman standing in the bow ready for action, the boatman on the stern seat, pushing her steadily through the reeds. The Rail generally spring singly, as the boat advances, and at a short distance a-head, are instantly shot down, while the boatman, keeping his eye on the spot where the bird fell, directs the boat forward, and picks it up as the gunner is loading. It is also the boatman's business to keep a sharp look-out, and give the word *mark*, when a Rail springs on either side, without being observed by the sportsman, and to note the exact spot where it falls, until he has picked it up; for this once lost sight of, owing to the sameness in the appearance of the reeds, is seldom found again. In this manner the boat moves steadily through, and over the reeds, the birds flushing and falling, the

gunner loading and firing, while the boatman is pushing and picking up. The sport continues till an hour or two after high-water, when the shallowness of the water, and the strength and weight of the floating reeds, as also the backwardness of the game to spring as the tide decreases, obliges them to return. Several boats are sometimes within a short distance of each other, and a perpetual cracking of musquetry prevails along the whole reedy shores of the river. In these excursions it is not uncommon for an active and expert marksman to kill ten or twelve dozens in a tide. They are usually shot singly, though I have known five killed at one discharge of a double-barrelled piece. These instances, however, are rare.

The flight of these birds among the reeds is usually low; and, shelter being abundant, is rarely extended to more than fifty or one hundred yards. When winged, and uninjured in their legs, they swim and dive with great rapidity, and are seldom seen to rise again. I have several times, on such occasions, discovered them clinging with their feet to the reeds under the water, and at other times skulking under the floating reeds, with their bill just above the surface. Sometimes, when wounded, they dive, and rising under the gunwale of the boat, secrete themselves there, moving round as the boat moves, until they have an opportunity of escaping unnoticed. They are feeble and delicate in every thing but the legs, which seem to possess great vigour and energy; and their bodies being so remarkably thin, or compressed, as to be less than an inch and a quarter through transversely, they are enabled to pass between the reeds like rats. When seen, they are almost constantly jetting up the tail. Yet, though their flight among the reeds seems feeble and fluttering, every sportsman, who is acquainted with them here, must have seen them occasionally rising to a considerable height, stretching out their legs behind them, and flying rapidly across the river, where it is more than a mile in width.

Such is the mode of Rail-shooting in the neighbourhood of Philadelphia. In Virginia, particularly along the shores of James river, within the tide water, where the Rail, or Sora, are in

prodigious numbers, they are also shot on the wing, but more usually taken at night in the following manner:—A kind of iron grate is fixed on the top of a stout pole, which is placed like a mast, in a light canoe, and filled with fire. The darker the night the more successful is the sport. The person who manages the canoe is provided with a light paddle, ten or twelve feet in length; and about an hour before high-water proceeds through among the reeds, which lie broken and floating on the surface. The whole space, for a considerable way round the canoe, is completely enlightened; the birds stare with astonishment, and as they appear, are knocked on the head with the paddle, and thrown into the canoe. In this manner from twenty to eighty dozens have been killed by three negroes, in the short space of three hours.

At the same season, or a little earlier, they are very numerous in the lagoons near Detroit, on our northern frontiers, where another species of reed (of which they are equally fond) grows in shallows, in great abundance. Gentlemen who have shot them there, and on whose judgment I can rely, assure me, that they differ in nothing from those they have usually killed on the shores of the Delaware and Schuylkill; they are equally fat, and exquisite eating. On the seacoast of New Jersey, where these reeds are not to be found, this bird is altogether unknown; though along the marshes of Maurice river, and other tributary streams of the Delaware, and wherever the reeds abound, the Rail are sure to be found also. Most of them leave Pennsylvania before the end of October, and the southern states early in November; though numbers linger in the warm southern marshes the whole winter. A very worthy gentleman, Mr. Harrison, who lives in Kittiwan, near a creek of that name, on the borders of James river, informed me, that in burning his meadows early in March, they generally raise and destroy several of these birds. That the great body of these Rail winter in countries beyond the United States, is rendered highly probable from their being so frequently met with at sea, between our shores and the West India islands. A captain Douglass informed me,

that on his voyage from St. Domingo to Philadelphia, and more than a hundred miles from the capes of the Delaware, one night the man at the helm was alarmed by a sudden crash on deck, that broke the glass in the binacle, and put out the light. On examining into the cause, three Rail were found on deck, two of which were killed on the spot, and the other died soon after. The late bishop Madison, president of William and Mary college, Virginia, assured me, that a Mr. Skipwith, for some time our consul in Europe, in his return to the United States, when upwards of three hundred miles from the capes of the Chesapeake, several Rail or Soras, I think five or six, came on board, and were caught by the people. Mr. Skipwith being well acquainted with the bird, assured him that they were the very same with those usually killed on James river. I have received like assurances from several other gentlemen, and captains of vessels, who have met with these birds between the main land and the islands, so as to leave no doubt on my mind of the fact. For, why should it be considered incredible that a bird which can both swim and dive well, and at pleasure fly with great rapidity, as I have myself frequently witnessed, should be incapable of migrating, like so many others, over extensive tracts of land or sea? Inhabiting, as they do, the remote regions of Hudson's Bay, where it is impossible they could subsist during the rigors of their winter, they must either emigrate thence or perish; and as the same places in Pennsylvania, which abound with them in October are often laid under ice and snow during the winter, it is as impossible that they could exist here in that inclement season; Heaven has therefore given them, in common with many others, certain prescience of these circumstances; and judgment, as well as strength of flight, sufficient to seek more genial climates, abounding with their suitable food.

The Rail is nine inches long, and fourteen inches in extent; bill yellow, blackish towards the point; lores, front, crown, chin, and stripe down the throat, black; line over the eye, cheeks and breast, fine light ash; sides of the crown, neck, and upper parts generally, olive brown, streaked with black, and

also with long lines of pure white, the feathers being centred with black, on a brown olive ground, and edged with white; these touches of white are shorter near the shoulder of the wing, lengthening as they descend; wing plain olive brown; tertials streaked with black and long lines of white; tail pointed, dusky olive brown, centred with black, the four middle feathers bordered for half their length with lines of white; lower part of the breast marked with semicircular lines of white, on a light ash ground; belly white; sides under the wings deep olive, barred with black, white, and reddish buff; vent brownish buff; legs, feet, and naked part of the thighs, yellowish green; exterior edge of the wing white; eyes reddish hazel.

The females, and young of the first season, have the throat white, the breast pale brown, and little or no black on the head. The males may always be distinguished by their ashy blue breasts, and black throats.

During the greater part of the months of September and October, the market of Philadelphia is abundantly supplied with Rail, which are sold from half a dollar to a dollar a dozen. Soon after the twentieth of October, at which time our first smart frosts generally take place, these birds move off to the south. In Virginia they usually remain until the first week in November.

Since the above was written, I have received from Mr. George Ord, of Philadelphia, some curious particulars relative to this bird, which, as they are new, and come from a gentleman of respectability, are worthy of being recorded, and merit further investigation.

"My personal experience," says Mr. Ord, "has made me acquainted with a fact in the history of the Rail, which perhaps is not generally known; and I shall, as briefly as possible, communicate it to you. Some time in the autumn of the year 1809, as I was walking in a yard, after a severe shower of rain, I perceived the feet of a bird projecting from a spout. I pulled it out, and discovered it to be a Rail, very vigorous, and in perfect health. The bird was placed in a small room, on a gin-case; and

I was amusing myself with it, when, in the act of pointing my finger at it, it suddenly sprang forward, apparently much irritated, fell to the floor, and stretching out its feet, and bending its neck, until the head nearly touched the back, became to all appearance lifeless. Thinking the fall had killed the bird, I took it up, and began to lament my rashness in provoking it. In a few minutes it again breathed; and it was some time before it perfectly recovered from the fit, into which, it now appeared evident, it had fallen. I placed the Rail in a room, wherein Canary birds were confined; and resolved that, on the succeeding day, I would endeavour to discover whether or not the passion of anger had produced the fit. I entered the room at the appointed time, and approached the bird, which had retired, on beholding me, in a sullen humour, to a corner. On pointing my finger at it, its feathers were immediately ruffled; and in an instant it sprang forward, as in the first instance, and fell into a similar fit. The following day the experiment was repeated, with the like effect. In the autumn of 1811, as I was shooting amongst the reeds, I perceived a Rail rise but a few feet before my batteau. The bird had risen about a yard when it became entangled in the tops of a small bunch of reeds, and immediately fell. Its feet and neck were extended, as in the instances above mentioned; and before it had time to recover, I killed it. Some few days afterwards, as a friend and I were shooting in the same place, he killed a Rail, and, as we approached the spot to pick it up, another was perceived, not a foot off, in a fit. I took up the bird, and placed it in the crown of my hat. In a few moments it revived, and was as vigorous as ever. These facts go to prove, that the Rail is subject to gusts of passion, which operate to so violent a degree as to produce a disease, similar in its effects to epilepsy. I leave the explication of the phenomenon to those pathologists who are competent and willing to investigate it. It may be worthy of remark, that the birds affected as described, were all females of the *Rallus Carolinus*, or common Rail.

"The Rail, though generally reputed a simple bird, will sometimes manifest symptoms of considerable intelligence. To

those acquainted with Rail-shooting, it is hardly necessary to mention, that the tide, in its flux, is considered an almost indispensable auxiliary; for, when the water is off the marsh, the lubricity of the mud, the height and compactness of the reed, and the swiftness of foot of the game, tend to weary the sportsman, and to frustrate his endeavours. Even should he succeed in a tolerable degree, the reward is not commensurate to the labour. I have entered the marsh in a batteau, at a common tide, and in a well-known haunt have beheld but few birds. The next better tide, on resorting to the same spot, I have perceived abundance of game. The fact is, the Rail dive, and conceal themselves beneath the fallen reed, merely projecting their heads above the surface of the water for air, and remain in that situation until the sportsman has passed them; and it is well known, that it is a common practice with wounded Rail to dive to the bottom, and, holding upon some vegetable substance, support themselves in that situation until exhausted. During such times, the bird, in escaping from one enemy, has often to encounter another not less formidable. Eels and cat-fish swarm in every direction, prowling for prey; and it is ten to one if a wounded Rail escapes them. I myself have beheld a large eel make off with a bird that I had shot, before I had time to pick it up; and one of my boys, in bobbing for eels, caught one with a whole Rail in its belly.

"I have heard it observed, that on the increase of the moon the Rail improves in fatness, and decreases in a considerable degree with that planet. Sometimes I have conceited that the remark was just. If it be a fact, I think it may be explained on the supposition, that the bird is enabled to feed at night, as well as by day, while it has the benefit of the moon, and with less interruption than at other periods."

GENUS 80. GALLINULA. GALINULE.

SPECIES 1. *G. MARTINICA.*

MARTINICO GALLINULE.*

[Plate LXXIII.—Fig. 2.]

Gallinula Martinica, Lath. *Ind. Orn. p.* 769, 9. *Gen. Syn.* iii, *p.* 255, 7, *pl.* 88.—*Fulica Martinica*, Linn. *Syst. ed.* 12, i, *p.* 259, 7.—*Fulica Martinicensis*, Gmel. *Syst. p.* 700, 7.—*La petite Poule-Sultane*, Briss. *Orn.* v, *p.* 526, *pl.* 42, *fig.* 2.—Buff. *Ois.* 8, *p.* 206.—*La Favourite de Cayenne, Pl. Enl. No.* 897, *young?* —Peale's *Museum No.* 4294.

This splendid bird is a native of the southern parts of the continent of North America. I have never learnt that it migrates as far north as Virginia, though it is probable that it may be occasionally seen in that state. It makes its appearance, in the Sea-islands of Georgia, in the latter part of April; and after spending the summer, it departs, with its young; in the autumn. The marshes of Mexico appear to be its winter residence. It frequents the rice fields and fresh water ponds, in company with the Common Gallinule; but the latter, being of a more hardy nature, remains all winter, both in Georgia and Florida.

During its migration, this bird is frequently driven to sea; and I have known two or three instances of its having sought refuge on board of vessels. On the 24th May, 1824, a brig arrived at Philadelphia, from New Orleans, bringing a fine living specimen, which had flown on board of her in the Gulf-stream. This bird is now alive in the Philadelphia Museum.

In the month of August, 1818, a storm drove another individual on board of a vessel, in her passage from Savannah to Philadelphia. This also lived for some time in Peale's Museum.

* Named in the plate Purple Gallinule.

The Martinico Gallinule is a vigorous and active bird. It bites hard, and is quite expert in the use of its feet. When it seizes upon any substance with its toes, it requires a considerable effort to disengage it. Its toes are long, and spread greatly. It runs with swiftness; and, when walking, it jerks its tail in the manner of the Common Rail. Its manners and food are somewhat similar to those of the far-famed Purple Gallinule, whose history is so beautifully detailed in the works of Buffon.

In its native haunts it is vigilant and shy; and it is not easy to spring it, without the assistance of a dog.

The specimen, from which our drawing was taken, came from the state of Georgia, and is deposited in the Philadelphia Museum. It is reduced, as well as the rest of the figures in the same plate, to one half of the size of life.

Length from the tip of the bill to the end of the tail fourteen inches; bill an inch and a quarter long, vermilion, greenish yellow at the tip; irides pale cornelian; naked crown dull azure; head, part of the neck, throat and breast, of a rich violet purple; back and scapulars olive green; rump, tail and its coverts, brownish green; sides of the neck, and wings, ultramarine, the latter tinged with green; shoulders of wings rich azure; inner webs of the quills and tail feathers dusky brown; belly and thighs dull purplish black; vent pure white; tail rounded; legs and feet greenish yellow, claws long, sharp, and of a pale flesh colour; span of the foot five inches.*

* From Mr. Ord's supplementary volume.

ORDER VIII. PINNATIPEDES. PINNATED FEET.

GENUS 82. PHALAROPUS. PHALAROPE.

SPECIES 1. *P. FULICARIUS.*

GRAY PHALAROPE.*

[Plate LXXIII.—Fig. 4.]

Tringa Fulicaria, Linn. *Syst. ed.* 10, *tom.* i, *p.* 148, 6.—*Tringa glacialis*, Gmel. *Syst.* i, *p.* 675, 2. *T. hyperborea, var. b, Id. p.* 676.—*Le Phalarope*, Briss. *Orn.* vi, *p.* 12, *No.* 1. *Phalaropus rufescens, Id. p.* 20.—*Phalaropus lobatus*, Lath. *Ind. Orn. p.* 776, 2. *P. glacialis, Id. No.* 3. *Red Phalarope, fem. Gen. Syn.* 3, *p.* 271. *Gray Phalarope, Id. p.* 272, 2. *Plain Phalarope, Id. p.* 273, 3.—*Gray Phalarope*, Penn. *Brit. Zool. No.* 218. *Arct. Zool. No.* 412. *Red Phalarope, Id. No.* 413. *Plain Phalarope, Id. No.* 415. *Red Coot-footed Tringa*, Edwards, *pl.* 142. *Gray Coot-footed Tringa, Id. Gleanings, Pl.* 308.—*Le Phalarope rouge*, Buff. *Ois.* viii, *p.* 225. *Le Phalarope a festons dentelés, Id. p.* 226.—*Gray Phalarope*, Montagu, *Orn. Dic. and Appendix to Sup.*—Bewick, ii, *p.* 132.—*Le Phalarope gris*, Cuv. *Reg. An.* i, *p.* 492. *Le Phalarope rouge, Id. ibid.*—*Phaloropus platyrhinchus*, Temm. *Man. d'Orn. p.* 712.—Peale's *Museum*, *No.* 4088.

Bill pretty stout and wide, slightly compressed at the tip, depressed on the lower half, upper mandible carinate; nostrils subovate, a short distance from the base; feet semipalmate, lobes of the toes broad and greatly scalloped; hind toe barely touching the ground.

Bill reddish orange at the base, the remainder black, an inch long; front and crown black, barred transversely with lines of

*Named in the plate Red Phalarope.

white; throat, sides of the neck, and lower parts, white, thickly and irregularly barred with curving dashes of reddish chocolate; upper parts of a deep cinereous blue, streaked with brownish yellow and black; the black scapulars broadly edged with brownish yellow; wings and rump dark cinereous; greater wing-coverts broadly tipped with white, forming a large band; primaries nearly black, and crossed with white below their coverts; tail plain olive, middle of its coverts black, their sides bright brownish yellow; vent white, those feathers immediately next to the tail reddish chocolate; legs black on the outside, yellowish within.

Length nine inches, breadth fifteen inches and a half; length of hind toe, independent of the claw, one-eighth of an inch. Male?

The inner toe is connected to the middle one, by a membrane, as far as the first joint, the outer toe much further: hence the feet may be properly termed semipalmate; webs and lobes finely pectinated. This conformation of the feet is pretty accurately exhibited in Edwards's plate, No. 308.

The Gray Phalarope is a rare bird in Pennsylvania; and is not often met with in any part of the United States. The individual from which our figure and description were taken, was shot in a pond, in the vicinity of Philadelphia, in the latter part of May, 1812. There were three in company. The person who shot it had never seen one of the species before, and was struck with their singular manners. He described them as swimming actively near the margin of the pond, dipping in their bill very often, as if feeding, and turning frequently. In consequence of our specimen being in a state of putridity when received, it was preserved with considerable difficulty, and the sex could not be ascertained.

In the spring of the year 1816, my friend, Mr. Le Sueur, shot in Boston Bay a young individual of this species: crown dark slate, tinged with yellowish brown; front, throat, line over the eye, belly and vent, white; shoulders, breast and sides, tawny or fawn colour; back dark slate, paler near the rump,

the feathers edged with bright yellow ochre; wings pale cinereous, some of the lesser coverts edged with white, the greater coverts largely so, forming the bar; primaries and tail black, the latter edged with yellowish brown, the shafts of the former white. Bill and feet as in the first described.

On the 20th of March, 1818, I shot in the river St. John, in East Florida, an immature female specimen: irides dark brown; around the base of the bill a slight marking of dark slate; front and crown white, mottled with pale ash; at the anterior part of each eye a black spot; beneath the eyes dark slate, which extends over the auriculars, the hind-head, and upper part of the neck; upper parts cinereous gray, with a few faint streaks of slate; throat, breast, whole lower parts, and under tail-coverts, pure white; flanks with a few faint ferruginous stains; wings slate brown, the coverts of the secondaries, and a few of the primary coverts, largely tipped with white, forming the bar as usual; tail brown, edged with cinereous; legs and feet pale plumbeous, the webs, and part of the scalloped membranes, yellowish. Bill and size as in the first specimen.

The tongue of this species is large, fleshy and obtuse.

A reference to the head of this article will show the variety of names under which this bird has been described. What could induce that respectable naturalist, M. Temminck, to give it a new appellation, we are totally at a loss to conceive. That his name is good, that it is even better than all the rest, we are willing to admit; but that he had no right to give it a new name, we shall boldly maintain, not only on the score of expediency, but of justice. If the right to change be once conceded, there is no calculating the extent of the confusion in which the whole system of nomenclature will be involved. The study of methodical natural history is sufficiently laborious, and whatever will have a tendency to diminish this labour, ought to meet the cordial support of all those who are interested in the advancement of the natural sciences.

"The study of Natural history," says the present learned president of the Linnean society, "is, from the multitude of

objects with which it is conversant, necessarily so encumbered with names, that students require every possible assistance to facilitate the attainment of those names, and have a just right to complain of every needless impediment. Nor is it allowable to alter such names, even for the better. In our science the names established throughout the works of Linnæus are become current coin, nor can they be altered without great inconvenience."*

That there is a property in names as well as in things, will not be disputed; and there are few naturalists who would not feel as sensibly a fraud committed on their nomenclature as on their purse. The ardour with which the student pursues his researches, and the solicitude which he manifests in promulgating his discoveries under appropriate appellations, are proofs that at least part of his gratification is derived from the supposed distinction which a name will confer upon him; deprive him of this distinction, and you inflict a wound upon his self-love, which will not readily be healed.

To enter into a train of reasoning to prove that he who first describes and names a subject of natural history, agreeably to the laws of systematic classification, is for ever entitled to his name, and that it cannot be superseded without injustice, would be useless, because they are propositions which all naturalists deem self-evident. Then how comes it, whilst we are so tenacious of our own rights, we so often disregard those of others?

I would now come to the point. It will be perceived that I have ventured to restore the long neglected name of *fulicaria*. That I shall be supported in this restoration I have little doubt, when it shall have been manifest that it was Linnæus himself who first named this species. A reference to the tenth edition of the Systema Naturæ† will show that the authority for *Tringa*

*An Introduction to Physiological and Systemical Botany, chap. 22.

†Of all the editions of the Systema Naturæ, the tenth and the twelfth are the most valuable; the former being the first which contains the synonyma, and the latter being that which received the finishing hand of its author. In the United States, Linnæus is principally known through two

fulicaria is Edwards's Red Coot-footed Tringa, pl. 142, and that alone, for it does not appear that Linnæus had seen the bird. The circumstance of the change of the generic appellation can in nowise affect the specific name; the present improved state of the science requires the former, justice demands that the latter should be preserved. In this work I have preserved it; and I flatter myself that this humble attempt to vindicate the rights of Linæus, will be approved by all those who love those sciences, of which he was so illustrious a promoter.*

editors:—Gmelin, whose thirteenth edition of the Systema Naturæ has involved the whole science in almost inextricable confusion, and Turton, whose English translation of Gmelin is a disgrace to science and letters. All writers on Zoology and Botany should possess Linnæus's tenth and twelfth editions; they will be found to be of indispensible use in tracing synonymes, and fixing nomenclature.

* From Mr. Ord's supplementary Volume.

SPECIES 2. *PHALAROPUS LOBATUS.*

BROWN PHALAROPE.*

[Plate LXXIII—Fig. 3.]

Tringa lobata, Lin. *Syst. ed.* 10, *tom.* 1, *p.* 148, 5. *T. hyperborea*, *Id. ed.* 12, *tom.* 1, *p.* 249, 9.—*Tringa lobata*, Gmel. *Syst.* 1, *p.* 674, 6. *T. fusca*, *Id. p.* 675, 33. *T. hyperborea*, *Id. No.* 9.—*Phalaropus cinereus*, Briss. *Orn.* vi, *p.* 15. *P. fuscus*, *Id. p.* 18.—*Le Phalarope cendre*, Buff. *Ois.* viii, *p.* 224. *Pl. Enl.* 766.—*Coot-footed Tringa*, Edwards, *pl.* 46. *Cock Coot-footed Tringa*, *Id. pl.* 143.—*Red Phalarope*, Penn. *Brit. Zool. No.* 219. *Brown Phalarope*, *Arct. Zool. No.* 414.—*Phalaropus hyperboreus*, Lath. *Ind. Orn. p.* 775, 1. *P. fuscus*, *Id. p.* 776. 4. *Red Phalarope*, *Gen. Syn.* iii, *p.* 270, 1. *Id. p.* 272, *var. A. Brown Phalarope*, *Id. p.* 274, 4.—*Red Phalarope*, Montagu, *Orn. Dic. Id. Sup. and Appendix.*—*Phaloropus hyperboreus*, Temm. *Man. d'Orn. p*, 709.—*Le Lobipede a hausse-col*, Cuv. *Reg. An.* 1, *p.* 495.

Of this species only one specimen was ever seen by Wilson, and that was preserved in Trowbridge's Museum, at Albany, in the state of New York. On referring to Wilson's Journal, I found an account of the bird, there called a *Tringa*, written with a lead pencil, but so scrawled and obscured, that parts of the writing were not legible. I wrote to Mr. Trowbridge, soliciting a particular description, but no answer was returned. However, having had the good fortune, since publishing the first edition, of examining a fine recent specimen of this rare bird, I hope I shall be enabled to fix the species by such characters, as will prevent any ornithologist in future from confounding it with the species which follows; two birds which,

* Named in the plate Gray Phalarope.

owing to a want of precision, were involved in almost inextricable confusion, until Temminck applied himself to the task of disembroiling them; and this ingenious naturalist has fully proved that the seven species of authors constituted, in effect, only two species.

Temminck's distinctive characters are drawn from the bill; and he has divided the genus into two sections, an arrangement the utility of which is not evident, seeing that each section contains but one species; unless we may consider that the Barred Phalarope of Latham constitutes a third: a point not yet ascertained, and not easy to be settled, for the want of characters.

In my examination of these birds, I have paid particular attention to the feet, which possess characters equally striking with those of the bill: hence a union of all these will afford a facility to the student, of which he will be fully sensible, when he makes them the subject of his investigation.

Our figure of this species betrays all the marks of haste; it is inaccurately drawn, and imperfectly coloured; notwithstanding, by a diligent study of it, I have been enabled to ascertain, that it is the Coot-footed Tringa of Edwards, pl. 46, and 143, to which bird Linnæus gave the specific denomination of *lobata*, as will be seen in the synonymes at the head of this article. In the twelfth edition of the Systema Naturæ, the Swedish naturalist, conceiving that he might have been in error, omitted, in his description of the *lobata*, the synonyme of Edwards's Cock Coot-footed Tringa, No. 143, and recorded the latter bird under the name of *hyperborea*, a specific appellation which Temminck, and other ornithologists, have sanctioned, but which the laws of methodical nomenclature prohibit us from adopting, as, beyond all question, *hyperborea* is only a synonyme of *lobata*, which has the priority, and must stand.

M. Temminck differs from us in the opinion, that the *T. lobata* of Gmelin, vol. 1, p. 674, is the present species, and refers it to that which follows. But if this respectable ornithologist will take the trouble to look into the twelfth edition of Linnæus, vol. 1, p. 249, No. 8, he will there find two false refe-

rences, Edwards's No. 308, and Brisson's No. 1, which gave rise to Gmelin's confusion of synonymes, and a consequent confusion in his description, as the essential character in both authors being in nearly the same words, (*rostro subulato, apice inflexo, &c.*) we are at no loss to infer that both descriptions have reference to the same bird; and we are certain that the *lobata* of the twelfth edition of the former is precisely the same as that of the tenth edition, which cites for authority Edwards's 46 and 143, as before mentioned.

I shall now give the short description of the bird figured in the plate, as I find it in Wilson's note book.

Bill black, slender, and one inch and three-eights* in length; lores, front, crown, hind-head, and thence to the back, very pale ash, nearly white; from the anterior angle of the eye a curving stripe of black descends along the neck for an inch or more; thence to the shoulders dark reddish brown, which also tinges the white on the side of the neck next to it; under parts white; above dark olive; wings and legs black. Size of the Turnstone.

The specimen from which the following description was taken, was kindly communicated to me by my friend, Mr. Titian R. Peale, while it was yet in a recent state, and before it was prepared for the museum. It was this individual which enabled me to ascertain the species figured in our plate. It was shot in the neighbourhood of Philadelphia, on the seventh of May, 1818.

Bill narrow, slender, flexible, subulate, of equal width; nostrils basal and linear; lobes of the toes thick, narrow, and but slightly scalloped; outer toe connected to the middle one as far

* In the original the bill is said to be one inch and three-quarters long; but that this is a mistake, we have only to measure the bill of the figure, drawn of half the size of nature, to be convinced. Wilson always measured his bills from the tip to the angle of the mouth. Our figure, by this admeasurement, indicates a bill of precisely the length of that of Peale's specimen, which I have described in detail.

as the first joint, inner toe divided nearly to its base; hind toe resting on the ground.

Bill black, one inch and three-eighths in length; head above of an ash gray; hind-head whitish, which colour extends a short distance down the neck; over the eyes a white stripe, below them a white spot; throat and lower parts white; a line of black passes through the eyes, spreads out towards the hind-head, and descends along the neck; lower part of the neck pale ferruginous; back part of the neck deep ferruginous, which descends on each side, and mingles with the plumage of the back and scapulars, which are of a clove brown, the feathers tipt with whitish; wings and tail dark clove brown, some of the lesser coverts having a reddish tinge; the upper tail feathers tinged with red at their tips, the under feathers marked with white on their inner webs; irides dark brown; legs and feet dark plumbeous; claws long, of a dark horn colour; hind toe, independent of the claw, five-sixteenths of an inch long; the tertials, when the wing is closed, extend to within three-eighths of an inch of the tip of the primaries; weight an ounce and three-quarters; length nine inches and a half, breadth sixteen inches. This was a female, her eggs very small.

In the grand chain of animated nature, the Phalaropes constitute one of the links between the waders and the wed-footed tribes, having the form of the Sandpipers, with some of the habits of the gulls: the scalloped membranes on their toes enabling them to swim with facility. They are clothed with a thick coat of feathers, beneath which, as in the Ducks, lies a mass of down, to protect them from the rigours of the northern climates, of which they are natives. They do not appear to be fond of the neighbourhood of the ocean, and are generally found in the interior, about the lakes, ponds, and streams of fresh water, where they delight to linger, swimming near the margin in search of seeds and insects.

They are nowhere numerous, are commonly seen in pairs, and are so extremely tame and unsuspicious, that one may approach to within a few feet of them.

The genus *Lobipes*, of the Baron Cuvier, is founded upon this species; and it must be confessed, that its characters are sufficiently distinct, from those of the bird which follows, to authorize such a separation; but unless some new species should be discovered, we see no impropriety in associating the two birds already known, taking care, however, to preserve a consistency in the generic characters, which Temminck, in his Manuel, has not sufficiently observed.

In the appendix to Montagu's Supplement to the Ornithological Dictionary, we find the following remarks on this species, there named *fulicaria:* "We have before mentioned, that this bird had been observed in the Orknies, in considerable abundance, in the summer, and that no doubts were entertained of its breeding there, although the nest had not been found. To Mr. Bullock, therefore, we are indebted for the further elucidation of the natural history of this elegant little bird. In a letter to the author, this gentlemen says, "I found the Red Phalarope common in the marshes of Sanda and Westra, in the breeding season, but which it leaves in the autumn. This bird is so extremely tame that I killed nine without moving out of the same spot, being not in the least alarmed at the report of a gun. It lays four eggs, of the shape of that of a snipe, but much less, of an olive colour, blotched with dusky. It swims with the greatest ease, and when on the water looks like a beautiful miniature of a duck, carrying its head close to the back, in the manner of a Teal."

Mr. Bullock further observes, "that the plumage of the female is much lighter, and has less of the rufous than the other sex."*

Note.—Since the foregoing was written, I have had an opportunity of examining the identical specimen, from which Wilson's drawing was taken, as it still remains in the Albany Museum. It is of the same species as the individual in the Philadelphia Museum, and which is described, above, in detail. That

* From Mr. Ord's supplementary volume.

Edwards's plate 46 represents this very bird, I have little hesitation in reasserting, notwithstanding all that has been advanced to the contrary, in some recent publications. Let it be remembered, that Edwards expressly informs us, his bird was captured on board of a vessel, on the coast of Maryland, it having been driven thither by an off-shore wind. At the foot of plate 308, Edwards has represented the bill of this Phalarope, as well as that of the *fulicarius*.

GENUS 83. FULICA. COOT.

SPECIES 8. *F. AMERICANA.*

CINEREOUS COOT.*

[Plate LXXIII.—Fig. 1.]

Fulica Americana, GMEL. *Syst.* I, *p.* 704, 23.—LATH. *Ind. Orn. p.* 779, 5. *Cinereous Coot, Gen. Syn.* III, *p.* 279.—PEALE'S *Museum, No.* 4322.

THIS species makes its appearance in Pennsylvania about the first of October. Among the muddy flats and islands of the river Delaware, which are periodically overflowed, and which are overgrown with the reed or wild-oats, and rushes, the Coots are found. They are not numerous, and are seldom seen, except their places of resort be covered with water: in that case they are generally found sitting on the fallen reed, waiting for the ebbing of the tide, which will enable them to feed. Their food consists of various aquatic plants, seeds, insects, and, it is said, small fish. The Coot has an aversion to take wing, and can seldom be sprung in its retreat at low water; for although it walks rather awkwardly, yet it contrives to skulk through the grass and reeds with great speed, the compressed form of its body, like that of the Rail genus, being well adapted to the purpose. It swims remarkably well, and, when wounded, will dive like a duck. When closely pursued in the water, it generally takes to the shore, rising with apparent reluctance, like a wounded duck, and fluttering along the surface with its feet pattering on the water.† It is known in Pennsylvania by the name of the Mud-hen.

* Named in the plate Common Coot.

† In Carolina they are called *Flusterers*, from the noise they make in flying along the surface of the water. A voyage to Carolina by John Lawson, p. 149.

I have never yet discovered that this species breeds with us; though it is highly probable that some few may occupy the marshes of the interior, in the vicinity of the ponds and lakes, for this purpose: those retired situations being well adapted to the hatching and rearing of their young. In the southern states, particularly South Carolina, they are well known; but the Floridas appear to be their principal rendezvous, for the business of incubation. "The Coot," says William Bartram, "is a native of North America, from Pennsylvania to Florida. They inhabit large rivers, fresh water inlets or bays, lagoons, &c. where they swim and feed amongst the reeds and grass of the shores; particularly in the river St. Juan, in East Florida, where they are found in immense flocks. They are loquacious and noisy, talking to one another night and day; are constantly on the water, the broad lobated membranes on their toes enabling them to swim and dive like ducks."*

I observed this species to be numerous, during the winter, in the fresh water ponds, situated in the vicinity of the river St. Juan or St. John, in East Florida; but I did not see them in the river. The food which they obtain in these places must be very abundant and nutricious; as the individuals which I shot were excessively fat. One male specimen weighed twenty-four ounces, avoirdupois. They associate with the Common Gallinule; (*Gallinula chloropus*) but there is not, perhaps, one of the latter for twenty of the former.

The Cinereous Coot is sixteen inches in length, and twenty-eight in extent; bill one and a half inch long, white, the upper mandible *slightly notched* near the tip, and marked across with a band of chestnut, the lower mandible marked on each side with a squarish spot of the like colour, edged on the lower part with bright yellow or gamboge, thence to the tip pale horn colour; membrane of the forehead, dark chestnut brown; irides cornelian red; beneath the eyes, in most specimens, a whitish spot; the head and neck are of a deep shining black, resembling sa-

* Letter from Mr. Bartram to the author.

tin; back and scapulars dirty greenish olive; shoulders, breast, and wing-coverts, slate blue; the under parts are hoary; vent black; beneath the tail pure white; primaries and secondaries slate, the former tipped with black, the latter with white, which does not appear when the wing is closed; outer edges of the wings white; legs and toes yellowish green, the scalloped membrane of the latter lead colour; middle toe, including the claw, three inches and three-quarters long.

The bird from which the foregoing description was taken, was shot on the Delaware, below Philadelphia, the 29th of October, 1813. It was an old male, an uncommonly fine specimen, and weighed twenty-three ounces avoirdupois. It is deposited in Peale's Museum.

The young birds differ somewhat in their plumage, that of the head and neck being of a brownish black; that of the breast and shoulders pale ash; the throat gray or mottled; the bill bluish white; and the membrane on the forehead considerably smaller.

The young females very much resemble the young males; all the difference which I have been enabled to perceive is as follows: breast and shoulders cinereous; markings on the bill less; upper parts of the head, in some specimens, mottled; and being less in size.

The lower parts of these birds are clothed with a thick down, and, particularly between the thighs, covered with close fine feathers. The thighs are placed far behind, are fleshy, strong, and bare above the knees.

The gizzard resembles a hen's, and is remarkably large and muscular. That of the bird which has been described, was filled with sand, gravel, shells, and the remains of aquatic plants.

Buffon describes the mode of shooting Coots in France, particularly in Lorraine, on the great pools of Tiaucourt and of Indre; hence we are led to suppose that they are esteemed as an article of food. But with us who are enabled, by the abundance and variety of game, to indulge in greater luxuries in that season when our Coots visit us, they are considered as of no account, and are seldom eaten.

The European ornithologists represent the membrane on the forehead of the *Fulica atra* as white, except in the breeding season, when it is said to change its colour to pale red. In every specimen of the Cinereous Coot which I have seen, except one, the membrane of the forehead was of a dark chestnut brown colour. The one alluded to was a fine adult male, shot in the Delaware, at Philadelphia, on the 11th of May; the membrane was of a *pure white;* no white marking beneath the eye; legs and feet of a bright grass green.

In Wilson's figure of the Coot, accompanying this volume, there are some slight errors: the auriculars are designated, which should not have been done, as they are not distinguishable from the rest of the plumage of the head and neck, which is all of a fine satiny texture; and the outline of the bill is not correct.

Latham states that the Common European Coot, *F. atra,* is "met with in Jamaica, Carolina, and other parts of North America." This I presume is a mistake, as I have never seen but one species of Coot in the United States. Brown, in speaking of the birds of Jamaica, mentions a Coot, which, in all probability, is the same as ours. The Coot mentioned by Sloane, is the Common Gallinule. So is also that spoken of in the Natural History of Barbadoes, by Hughes, p. 71.

In Lewis and Clark's History of their expedition, mention is made of a bird, which is common on the Columbia; is said to be very noisy, to have a sharp, shrill whistle, and to associate in large flocks; it is called the *Black Duck.** This is doubtless a species of Coot, but whether or not different from ours cannot be ascertained. How much is it to be regretted, that in an expedition of discovery, planned and fitted out by an enlightened government, furnished with every means for safety, subsistence and research, not one naturalist, not one draftsman,

* History of the Expedition, vol. ii, p. 194. Under date of November 30th, 1805, they say: "The hunters brought in a few *black ducks* of a species common in the United States, living in large flocks, and feeding on grass: they are distinguished by a *sharp white beak, toes separated,* and by having *no crav.*"

should have been sent, to observe and perpetuate the infinite variety of natural productions, many of which are entirely unknown to the community of science, which that extensive tour must have revealed!

The Coot leaves us in November, for the southward.

The foregoing was prepared for the press, when the author, in one of his shooting excursions on the Delaware, had the good fortune to kill a full plumaged female Coot. This was on the twentieth of April. It was swimming at the edge of a cripple or thicket of alder bushes, busily engaged in picking something from the surface of the water, and while thus employed it turned frequently. The membrane on its forehead was very small, and edged on the fore part with gamboge. Its eggs were of the size of partridge shot. And on the thirteenth of May, another fine female specimen was presented to him, which agreed with the above, with the exception of the membrane on the forehead being nearly as large and prominent as that of the male. From the circumstance of the eggs of all these birds being very small, it is probable that the Coots do not breed until July.

GENUS 85. RECURVIROSTRA. AVOSET.

SPECIES 1. *R. AMERICANA.*

AMERICAN AVOSET.

[Plate LXIII.—Fig. 2.]

Arct. Zool. No. 421.—Lath. *Syn. v.* III, *p.* 295, *No.* 2.—Peale's *Museum, No.* 4250.

This species, from its perpetual clamour, and flippancy of tongue, is called by the inhabitants of Cape May, the Lawyer; the comparison, however, reaches no farther: for our Lawyer is simple, timid, and perfectly inoffensive.

In describing the Long-legged Avoset of this volume, the similarity between that and the present was taken notice of. This resemblance extends to every thing but their colour. I found both these birds associated together in the salt marshes of New Jersey, on the twentieth of May. They were then breeding. Individuals of the present species were few in respect to the other. They flew around the shallow pools, exactly in the manner of the Long-legs, uttering the like sharp note of *click click click*, alighting on the marsh, or in the water, indiscriminately, fluttering their loose wings, and shaking their half-bent legs, as if ready to tumble over, keeping up a continual yelping note. They were, however, rather more shy, and kept at a greater distance. One which I wounded, attempted repeatedly to dive; but the water was too shallow to permit him to do this with facility. The nest was built among the thick tufts of grass, at a small distance from one of these pools. It was composed of small twigs, of a sea-side shrub, dry grass, sea weed, &c., raised to the height of several inches. The eggs were four, of a dull olive colour, marked with large irregular blotches of black, and with others of a fainter tint.

This species arrives on the coast of Cape May late in April; rears its young, and departs again to the south early in October. While here, it almost constantly frequents the shallow pools in the salt marshes; wading about, often to the belly, in search of food, viz. marine worms, snails, and various insects that abound among the soft muddy bottoms of the pools.

The male of this species is eighteen inches and a half long, and two feet and a half in extent; the bill is black, four inches in length, flat above, the general curvature upwards, except at the extremity, where it bends slightly down, ending in an extremely fine point; irides reddish hazel; whole head, neck and breast, a light sorrel colour; round the eye, and on the chin, nearly white; upper part of the back and wings black; scapulars, and almost the whole back, white, though generally concealed by the black of the upper parts; belly, vent and thighs, pure white; tail equal at the end, white, very slightly tinged with cinereous; tertials dusky brown; greater coverts tipt with white; secondaries white on their outer edges, and whole inner vanes; rest of the wing deep black; naked part of the thighs two and a half inches; legs four inches, both of a very pale light blue, exactly formed, thinned and netted, like those of the Long-legs; feet half-webbed; the outer membrane somewhat the broadest; there is a very slight hind toe, which, claw and all, does not exceed a quarter of an inch in length. In these two latter circumstances alone it differs from the Long-legs; but is in every other strikingly alike.

The female was two inches shorter, and three less in extent; the head and neck a much paler rufous, fading almost to white on the breast; and separated from the black of the back by a broader band of white; the bill was three inches and a half long; the leg half an inch shorter; in every other respect marked as the male. She contained a great number of eggs, some of them nearly ready for exclusion. The stomach was filled with small snails, periwinkle shell-fish, some kind of mossy vegetable food, and a number of aquatic insects. The intestines were infested

with tape-worms, and a number of smaller bot-like worms, some of which wallowed in the cavity of the abdomen.

In Mr. Peale's collection there is one of this same species, said to have been brought from New Holland, differing little in the markings of its plumage from our own. The red brown on the neck does not descend so far, scarcely occupying any of the breast; it is also somewhat less.*

In every stuffed and dried specimen of these birds which I have examined, the true form and flexure of the bill is altogether deranged; being naturally of a very tender and delicate substance.

Note.—It is remarkable, that, in the Atlantic states, this species invariably affects the neighbourhood of the ocean; we never having known an instance of its having been seen in the interior; and yet captain Lewis met with this bird at the ponds, in the vicinity of the Falls of the Missouri. That it was our species, I had ocular evidence, in a skin brought by Lewis himself, and presented, among other specimens of Natural History, to the Philadelphia Museum. See *History of Lewis and Clarke's Expedition,* vol. II, p. 343. *G. Ord.*

* This is a different species; it is the *R. rubricollis* of Temminck, Manuel d'Ornithologie, p. 592.

*SPECIES 2. RECURVIROSTRA HIMANTOPUS.**

LONG-LEGGED AVOSET.

[Plate LVIII.—Fig. 2.]

Long-legged Plover, Arct. Zool. p. 487, *No.* 405.—Turton, *p.* 416. Bewick, ii, 21.—*L'Echasse*, Buff. viii, 114. *Pl. Enl.* 878. —Peale's *Museum*, *No.* 4210.

Naturalists have most unaccountably classed this bird with the genus *Charadrius*, or Plover, and yet affect to make the particular conformation of the bill, legs and feet, the rule of their arrangement. In the present subject, however, excepting the trivial circumstance of the want of a hind toe, there is no resemblance whatever of those parts to the bill, legs or feet of the Plover; on the contrary, they are so entirely different, as to create no small surprise at the adoption, and general acceptation, of a classification, evidently so absurd and unnatural. This appears the more reprehensible, when we consider the striking affinity there is between this bird and the common Avoset, not only in the particular form of the bill, nostrils, tongue, legs, feet, wings and tail, but extending to the voice, manners, food, place of breeding, form of the nest, and even the very colour of the eggs of both, all of which are strikingly alike, and point out, at once, to the actual observer of nature, the true relationship of these remarkable birds.

Strongly impressed with these facts, from an intimate acquaintance with the living subjects, in their native wilds, I have presumed to remove the present species to the true and proper place assigned it by nature; and shall now proceed to detail some particulars of its history.

* This bird belongs to the genus *Himantopus* of Brisson.

This species arrives on the seacoast of New Jersey about the twenty-fifth of April, in small detached flocks, of twenty or thirty together. These sometimes again subdivide into lesser parties; but it rarely happens that a pair is found solitary, as during the breeding season they usually associate in small companies. On their first arrival, and indeed during the whole of their residence, they inhabit those particular parts of the salt marshes pretty high up towards the land, that are broken into numerous shallow pools, but are not usually overflowed by the tides during the summer. These pools, or ponds are generally so shallow, that with their long legs the Avosets can easily wade them in every direction, and as they abound with minute shell-fish, and multitudes of aquatic insects and their larvæ, besides the eggs and spawn of others deposited in the soft mud below, these birds find here an abundant supply of food, and are almost continually seen wading about in such places, often up to the breast in water.

In the vicinity of these *bald places*, as they are called by the country people, and at the distance of forty or fifty yards off, among the thick tufts of grass, one of these small associations, consisting perhaps of six or eight pair, takes up its residence during the breeding season. About the first week in May they begin to construct their nests, which are at first slightly formed of a small quantity of old grass, scarcely sufficient to keep the eggs from the wet marsh. As they lay and sit, however, either dreading the rise of the tides, or for some other purpose, the nest is increased in height, with dry twigs of a shrub very common in the marshes, roots of the salt grass, sea-weed, and various other substances, the whole weighing between two and three pounds. This habit of adding materials to the nest, after the female begins sitting, is common to almost all other birds that breed in the marshes. The eggs are four in number, of a dark yellowish clay colour, thickly marked with large blotches of black. These nests are often placed within fifteen or twenty yards, of each other, but the greatest harmony seems to prevail among the proprietors.

While the females are sitting, the males are either wading through the ponds, or roaming over the adjoining marshes; but should a person make his appearance, the whole collect together in the air, flying with their long legs extended behind them, keeping up a continual yelping note of *click click click*. Their flight is steady, and not in short sudden jerks like that of the Plover. As they frequently alight on the bare marsh, they drop their wings, stand with their legs half bent, and tremble as if unable to sustain the burden of their bodies. In this ridiculous posture they will sometimes stand for several minutes, uttering a curring sound, while from the corresponding quiverings of their wings and long legs, they seem to balance themselves with great difficulty. This singular manœuvre is, no doubt, intended to induce a belief that they may be easily caught, and so turn the attention of the person from the pursuit of their nests and young to themselves. The Red-necked Avoset, which we have introduced in the present volume, practises the very same deception, in the same ludicrous manner, and both alight indiscriminately on the ground, or in the water. Both will also occasionally swim for a few feet, when they chance in wading to lose their depth, as I have had several times an opportunity of observing.

The name by which this bird is known on the seacoast is the Stilt, or Tilt, or Long-shanks. They are but sparingly dispersed over the marshes, having, as has been already observed, their particular favourite spots; while in large intermediate tracts, there are few or none to be found. They occasionally visit the shore, wading about in the water, and in the mud, in search of food, which they scoop up very dexterously with their delicately formed bills. On being wounded while in the water, they attempt to escape by diving, at which they are by no means expert. In autumn, their flesh is tender, and well tasted. They seldom raise more than one brood in the season, and depart for the south early in September. As they are well known in Jamaica, it is probable some of them may winter in that and other of the West India Islands.

Mr. Pennant observes that this bird is not a native of northern Europe; and there have been but few instances where it has been seen in Great Britain. It is common, says Latham, in Egypt, being found there in the marshes in October. It is likewise plentiful about the salt lakes; and is often seen on the shores of the Caspian sea, as well as by the rivers which empty themselves into it; and in the southern deserts of independent Tartary. The same author adds, on the authority of Ray, that it is known at Madrass in the East Indies.

All the figures and descriptions which I have seen of this curious bird, represent the bill as straight, and of almost an equal thickness throughout, which I have never found so in any of the numerous specimens I have myself shot and examined. Many of these accounts, as well as figures, have been taken from dried and stuffed skins, which give but an imperfect, and often erroneous, idea of the true outlines of nature. The dimensions, colours and markings, of a very beautiful specimen, newly shot, were as follow:

Length from the point of the bill to the end of the tail fourteen inches, to the tips of the wings sixteen; extent twenty-eight inches; bill three inches long, slightly curved upwards, tapering to a fine point, the upper mandible rounded above, the whole of a deep black colour; nostrils an oblong slit, pervious; tongue short, pointed; forehead, spot behind the eye, lower eyelid, sides of the neck, and whole lower parts, pure white; back, rump and tail-coverts, also white, but so concealed by the scapulars as to appear black; tail even, or very slightly forked, and of a dingy white; the vent feathers reach to the tip of the tail below; line before the eye, auriculars, back part of the neck, scapulars, and whole wings, deep black, richly glossed with green; legs and naked thighs a fine pale carmine; the latter measure three, the former four inches and a half in length, exceedingly thin, and *so flexible that they may be bent considerably without danger of breaking*. This thinness of the leg enables the bird to wade with expedition, and without fatigue. Feet three-toed, the outer toe connected to the middle one by

a broad membrane; wings long, extending two inches beyond the tail, and sharp pointed; irides a bright rich scarlet; pupil black. In some, the white from the breast extends quite round the neck, separating the black of the hind neck from that of the body; claws blackish horn.

The female is about half an inch shorter, and differs in having the plumage of the upper back and scapulars, and also the tertials, of a deep brown colour. The stomach, or gizzard, was extremely muscular, and contained fragments of small snail shells, winged bugs, and a slimy matter, supposed to be the remains of some aquatic worms. In one of these females I counted upwards of one hundred and fifty eggs, some of them as large as buck-shot. The singular form of the legs and feet, with the exception of the hind toe and one membrane of the foot, is exactly like those of the Avoset. The upward curvature of the bill, though not quite so great, is also the same as in the other, being rounded above, and tapering to a delicate point in the same manner. In short, a slight comparison of the two is sufficient to satisfy the most scrupulous observer, that nature has classed these two birds together; and so believing, we shall not separate them.

GENUS 87. PHŒNICOPTERUS. FLAMINGO.

SPECIES. P. RUBER.

RED FLAMINGO.

[Plate LXVI.—Fig. 4.]

Le Flammant, Briss. vi, *p.* 533, *pl.* 47, *fig.* 1.—Buff. viii, *p.* 475, *pl.* 39. *Pl. Enl.* 63.—Lath. *Syn.* iii, *p.* 299.—*Arct. Zool. No.* 422.—Catesby, i, *pl.* 73, 74.—Peale's *Museum*, *No.* 3545, bird of the first year; *No.* 3546, bird of the second year.

This very singular species being occasionally seen on the southern frontiers of the United States, and on the peninsula of East Florida, where it is more common, has a claim to a niche in our Ornithological Museum, although the author regrets that from personal observation he can add nothing to the particulars of its history, already fully detailed in various European works. From the most respectable of these, The Synopsis of Dr. Latham, he has collected such particulars as appear authentic and interesting.

"This remarkable bird has the neck and legs in a greater disproportion than any other bird, the length from the end of the bill to that of the tail is four feet two or three inches, but to the end of the claws measures sometimes more than six feet. The bill is four inches and a quarter long, and of a construction different from that of any other bird; the upper mandible very thin and flat, and somewhat moveable; the under thick, both of them bending downwards from the middle; the nostrils are linear, and placed in a blackish membrane; the end of the bill as far as the bend is black, from thence to the base reddish yellow, round the base quite to the eye covered with a flesh coloured cere; the neck is slender, and of a great length; the tongue large, fleshy, filling the cavity of the bill, furnished with twelve or more hooked papillæ on each side, turning backwards; the

tip a sharp cartilaginous substance. The bird when in full plumage is wholly of a most deep scarlet, (those of Africa said to be the deepest) except the quills, which are black; from the base of the thigh to the claws measures thirty-two inches, of which the feathered part takes up no more than three inches; the bare part above the knee thirteen inches, and from thence to the claws sixteen; the colour of the bare parts is red, and the toes are furnished with a web as in the Duck genus; but is deeply indented. *The legs are not straight, but slightly bent, the shin rather projecting.*

"These birds do not gain their full plumage till the third year. In the first they are of a grayish white for the most part; the second of a clearer white, tinged with red, or rather rose colour; but the wings and scapulars are red; in the third year a general glowing scarlet manifests itself throughout; the bill and legs also keep pace with the gradation of colour in the plumage, these parts changing to their colours by degrees as the bird approaches to an adult state.

"Flamingoes prefer a warm climate, in the old continent not often met with beyond forty degrees north or south. Every where seen on the African coast, and adjacent isles, quite to the Cape of Good Hope,* and now and then on the coasts of Spain,† Italy, and those of France lying in the Mediterranean sea; being at times met with at Marseilles, and for some way up the Rhone. In some seasons frequents Aleppo,‡ and parts adjacent. Seen also on the Persian side of the Caspian sea, and from thence along the western coast as far as the Wolga; though this at uncertain times, and chiefly in considerable flocks, coming from the north coast mostly in October and November; but so soon as the wind changes they totally disappear.‖ They breed in the Cape Verd isles, particularly in that of Sal.¶ The

* In Zee Coow river. Phil. Trans. Once plenty in the Isle of France. Voy. to Mauritius, p. 66.

† About Valencia, in the lake Albufere. Dillon's Trav. p. 374.

‡ Russel's Aleppo, p. 69.

‖ Decouv. Russ. II, p. 248.

¶ Damp. Voy. I, p. 70.

nest is of a singular construction, made of mud, in shape of a hillock, with a cavity at top; in this the female lays generally two white eggs,* of the size of those of a Goose, but more elongated. The hillock is of such an height as to admit of the bird's sitting on it conveniently, or rather standing, as the legs are placed one on each side at full length.† The young cannot fly till full grown, but run very fast.

"Flamingoes, for the most part, keep together in flocks; and now and then are seen in great numbers together, except in breeding time. Dampier mentions having, with two more in company, killed fourteen at once; but this was effected by secreting themselves; for they are very shy birds, and will by no means suffer any one to approach openly near enough to shoot them.‡ Kolben observes that they are very numerous at the Cape, keeping in the day on the borders of the lakes and rivers, and lodging themselves of nights in the long grass on the hills. They are also common to various places in the warmer parts of America, frequenting the same latitudes as in other quarters of the world; being met with in Peru, Chili, Cayenne,‖ and the coast of Brasil, as well as the various islands of the West Indies. Sloane found them in Jamaica; but particularly at the Bahama islands, and that of Cuba, where they breed. When seen at a distance they appear as a regiment of soldiers, being arranged alongside of one another, on the borders of the rivers, searching for food, which chiefly consists of small fish,¶ or the eggs of them, and of water insects, which they search after by plunging in the bill and part of the head; from time to time trampling with their feet to muddy the water, that their prey may be raised from the bottom. In feeding are said to

* They never lay more than three, and seldom fewer. Phil. Trans.

† Sometimes will lay the eggs on a projecting part of a low rock, if it be placed sufficiently convenient so as to admit of the legs being placed one on each side. Linn.

‡ Davies talks of the gunner disguising himself in an ox hide, and by this means getting within gun-shot. Hist. Barbad. p. 88.

‖ Called there by the name of Tococo. ¶ Small shell fish. Gesner.

twist the neck in such a manner that the upper part of the bill is applied to the ground;* during this one of them is said to stand centinel, and the moment he sounds the alarm, the whole flock take wing. This bird when at rest stands on one leg, the other being drawn up close to the body, with the head placed under the wing on that side of the body it stands on.

"The flesh of these birds is esteemed pretty good meat; and the young thought by some equal to that of a Partridge;† but the greatest dainty is the tongue, which was esteemed by the ancients an exquisite morsel.‡ Are sometimes caught young and brought up tame; but are ever impatient of cold, and in this state will seldom live a great while, gradually losing their colour, flesh and appetite; and dying for want of that food which in a state of nature, at large, they were abundantly supplied with."

* Linnæus. Brisson.

† Commonly fat and accounted delicate. Davies's Hist. Barbad. p. 88. The inhabitants of Provence always throw away the flesh, as it tastes fishy, and only make use of the feathers as ornaments to other birds at particular entertainments. Dillons's Trav. p. 374.

‡ See Plin. IX, cap. 48.

GENUS 90. URIA. GUILLEMOT.

SPECIES. URIA ALLE.

LITTLE GUILLEMOT.*

[Plate LXXIV.—Fig. 5.]

Uria alle, Temm. *Man. d'Orn. p.* 928.—*Alca alle*, Linn. *Syst. ed.* 12, *tom.* i, *p.* 211, 5.—Gmel. *Syst.* i, *p.* 554, 5.—*Ind. Orn. p.* 795, 10.—*Uria minor*, Briss. vi, *p.* 73, 2.—*Le Petit Guillemot femelle, Pl. Enl.* 917.—*Small black and white Diver*, Edwards, *pl.* 91.—*Little Auk*, Lath. *Gen. Syn.*, iii, *p.* 327.—Penn. *Arct. Zool. No.* 429.—Bewick, ii, *p.* 158.—Peale's *Museum*, *No.* 2978.

Of the history of this little stranger, but few particulars are known. With us it is a very rare bird; and, when seen, it is generally in the vicinity of the sea. The specimen from which the figure in the plate was taken, was killed at Great Egg-Harbour, in the month of December, 1811, and was sent to Wilson as a great curiosity. It measured nine inches in length, and fourteen in extent; the bill, upper part of the head, back, wings and tail, were black; the upper part of the breast and hind-head, were gray, or white mixed with ash; the sides of the neck, whole lower parts, and tips of secondaries, were pure white; feet and legs black, shins pale flesh colour; above each eye there was a small spot of white;† the lower scapulars streaked slightly with the same.

The little Guillemot is said to be but a rare visitant of the British isles. It is met with in various parts of the north, even as far as Spitzbergen; is common in Greenland, in company with

* Named in the plate Little Auk.

† In Peale's Museum there is an excellent specimen of this species, which has likewise a smaller spot below each eye.

the black-billed Aux, and feeds upon the same kind of food. The Greenlanders call it the Ice-bird, from the circumstance of its being the harbinger of ice. It lays *two* bluish white eggs, larger than those of the Pigeon. It flies quick, and dives well; and is always dipping its bill into the water while swimming, or at rest on that element. Walks better on land than others of the genus. It grows fat in the stormy season, from the waves bringing plenty of crabs and small fish within its reach. It is not a very crafty bird, and may be easily taken. It varies to quite white; and sometimes is found with a reddish breast.*

To the anatomist, the internal organization of this species is deserving attention: it is so constructed as to be capable of contracting or dilating itself at pleasure. We know not what Nature intends by this conformation, unless it be to facilitate diving, for which the compressed form is well adapted; and likewise the body when expanded will be rendered more buoyant, and fit for the purpose of swimming upon the surface of the water.†

* Latham. Pennant. † From Mr. Ord's supplementary Volume.

GENUS 91. COLYMBUS. DIVER.

SPECIES C. GLACIALIS.

GREAT NORTHERN DIVER OR LOON,

[Plate LXXIV.—Fig. 3.]

Colymbus glacialis, Linn. *Syst. ed.* 12, *tom.* i, *p.* 221, 5. *C. immer*, *Id. p.* 222, *No.* 6.—*Ind. Orn. p.* 799, 1. C. *immer Id. p.* 800, 2.—*Le grand Plongeon*, Briss. vi, *p.* 105, *pl.* 10, *fig.* 1. *Le grand Plongeon tachete*, *Id. p.* 120, *pl.* 11, *fig.* 2.—*Le grand Plongeon*, Buff. *Ois.* viii, *p.* 251. *L'Imbrim, ou grand Plongeon de la mer du nord*, *Id. p.* 258, *tab.* 22. *Pl. Enl.* 952.—*Northern Diver*, Lath. *Gen. Syn.* iii, *p.* 337. *Imber Diver*, *Id. p.* 340.—Penn. *Brit. Zool. No.* 237, 238. *Arct. Zool. No.* 439, 440.—Bewick, ii, *p.* 168, 170.—Montagu, *Orn. Dic. Sup. App.*—Low, *Fauna Orcadensis*, *p* 108, 110.—*Plongeon Imbrim*, Temm. *Man. d'Orn. p.* 910.—Peale's *Museum*, *No.* 3262, *male and young.* —3263, *female.*

This bird in Pennsylvania is migratory. In the autumn it makes its appearance with the various feathered tribes that frequent our waters; and when the streams are obstructed with ice, it departs for the southern states.* In the months of March and April it is again seen; and after lingering awhile, it leaves us for the purpose of breeding. The loons are found along the coast as well as in the interior; but in the summer they retire to the fresh water lakes and ponds. We have never heard that they breed in Pennsylvania; but it is said they do in Missibisci pond, near Boston, Massachusetts. The female lays two large brownish eggs. They are commonly seen in pairs, and procure their food, which is fish, in the deepest water of our rivers, diving after it, and continuing under for a length of time. Being a wary bird, it is seldom they are killed, eluding their pursuers by their as-

* The Loon is said to winter in the Chesapeake Bay.

tonishing faculty of diving. They seem averse from flying, and are but seldom seen on the wing. They are never eaten.

The Loon is restless before a storm; and an experienced master of a coasting vessel informed me, that he always knew when a tempest was approaching by the cry of this bird, which is very shrill, and may be heard at the distance of a mile or more. The correctness of this observation I have myself since experienced, in a winter voyage on the southern coasts of the United States.

This species seldom visits the shores of Britain, except in very severe winters; but it is met with in the north of Europe, and spreads along the arctic coast as far as the mouth of the river Ob, in the dominions of Russia. It is found about Spitzbergen, Iceland and Hudson's Bay. Makes its nest, in the more northern regions, on the little isles of fresh water lakes; every pair keep a lake to themselves. It sees well, flies very high, and, darting obliquely, falls secure into its nest. Appears in Greenland in April or the beginning of May; and goes away in September or October, on the first fall of snow.* It is also found at Nootka Sound†, and Kamtschatka.

The Barabinzians, a nation situated between the river Ob and the Irtisch, in the Russian dominions, tan the breasts of this and other water fowl, whose skins they prepare in such a manner as to preserve the down upon them; and, sewing a number of these together, they sell them to make pelises, caps, &c. Garments made of these are very warm, never imbibing the least moisture; and are more lasting than could be imagined.§

The natives of Greenland use the skins for clothing; and the Indians about Hudson's Bay adorn their heads with circlets of their feathers.¶

Lewis and Clark's party, at the mouth of the Columbia, saw robes made of the skins of Loons;** and abundance of these birds during the time that they wintered at Fort Clatsop on that river.††

* Pennant.
† Cook's last voy. ii, p. 237, Am. ed.
§ Latham.
¶ Arctic Zoology.
** Gass's Journal.
†† History of the Expedition, vol. ii, p. 189.

The Laplanders, according to Regnard, cover their heads with a cap made of the skin of a *Loom* (Loon), which word signifies in their language *lame*, because the bird cannot walk well. They place it on their head in such a manner, that the bird's head falls over their brow, and its wings cover their ears.

"Northern Divers," says Hearne, "though common in Hudson's Bay, are by no means plentiful; they are seldom found near the coast, but more frequently in fresh water lakes, and usually in pairs. They build their nests at the edge of small islands, or the margins of lakes or ponds; they lay only two eggs, and it is very common to find only one pair and their young in one sheet of water: a great proof of their aversion to society. They are known in Hudson's Bay by the name of Loons."*

The Great Northern Diver measures two feet ten inches from the tip of the bill to the end of the tail, and four feet six inches in breadth; the bill is strong, of a glossy black, and four inches and three-quarters long to the corner of the mouth; the edges of the bill do not fit exactly into each other, and are ragged, the lower mandible separates into two branches, which are united by a thin elastic membrane, and are easily moveable horizontally or receding from each other, so as to form a wider gap to facilitate the swallowing of large fish; tongue bifid; irides dark blood red; the head, and half of the length of the neck, are of a deep black, with a green gloss, and purple reflections; this is succeeded by a band, consisting of interrupted white and black lateral stripes, which encompasses the neck, and tapers to a point on its fore part, without joining—this band measures about an inch and a half in its widest part, and to appearance is not continuous on the back part of the neck, being concealed by some thick, overhanging, black feathers, but on separating the latter the band becomes visible: the feathers which form these narrow stripes are white, streaked down their centre with black, and, what is a remarkable peculiarity, their webs project above

*Hearne's Journey, p. 429, quarto.

the common surface; below this a broad band of dark glossy green and violet, which is blended behind with the plumage of the back; the lower part of the neck, and the sides of the breast, are ribbed in the same manner as the band above; below the chin a few stripes of the same; the whole of the upper parts are of a deep black, slightly glossed with green, and thickly spotted with white, in regular transverse or semicircular rows, two spots on the end of each feather—those on the upper part of the back, shoulders, rump and tail-coverts, small and roundish, those on the centre of the back, square and larger, those on the scapulars are the largest, and of an oblong square shape; the wing feathers and tail are plain brown black, the latter composed of twenty feathers; the lower parts are pure white, a slight dusky line across the vent; the scapulars descend over the wing, when closed, and the belly feathers ascend so as to meet them, by which means every part of the wing is concealed, except towards the tip; the outside of the legs and feet is black, inside lead colour; the leg is four inches in length, and the foot measures, along the exterior toe to the tip of its claw, four inches and three-quarters; both legs and feet are marked with five-sided polygons. Weight of the specimen described eight pounds and a half.

The adult male and female are alike in plumage.

The young do not appear to obtain their perfect plumage until the second or third year. One which I saw, and which was conjectured to be a yearling, had its upper parts of a brown or mouse colour; a few spots on the back and scapulars; but none of those markings on the neck, which distinguish the full-grown male. Another had the whole upper parts of a pale brown; the plumage of part of the back and scapulars tipped with pale ash; the lower parts white, with a yellowish tinge; no bands on the neck, nor spots on the body.

The conformation of the ribs and bones of this species is remarkable, and merits particular examination.

In the account which some of the European ornithologists give of their Northern Diver, we presume there is an inaccuracy.

They say it measures three feet six inches in length, and four feet eight in breadth; and weighs *sixteen pounds.* If this be a correct statement, it would lead to the surmise that our Diver is a differerent species; for of several specimens which we examined, the best and largest has been described for this work, the admeasurement of which bird comes considerably short of that of the European, mentioned above. The weight, as has been stated, was eight pounds and a half.

On a re-examination of the Supplement to the Ornithological Dictionary of Montagu, I find, upon this subject, the following remarks, which should seem to put the question at rest respecting the identity of the European and American species: "It should appear that the size of this species has been commonly exaggerated, or they must vary materially, since those which have come under our examination did not exceed ten pounds; and an old or matured male measured only two feet eight inches. A young female, before the plumage was perfected, weighed eight pounds six ounces, and measured two feet seven inches in length.

"A Northern Diver taken alive, was kept in a pond for some months, which gave us an opportunity of attending to its manners. In a few days it became extremely docile, would come at the call, from one side of the pond to the other, and would take food from the hand. The bird had received an injury in the head, which had deprived one eye of its sight, and the other was a little impaired, but notwithstanding, it could by incessantly diving, discover all the fish that was thrown into the pond. In defect of fish it would eat flesh.

"It is observable that the legs of this bird are so constructed and situated, as to render it incapable of walking upon them. This is probably the case with all the divers, as well as the Grebes.

"When this bird quitted the water, it shoved its body along upon the ground, like a seal, by jerks, rubbing the breast against the ground; and it returned again to the water in a similar man-

ner. In swimming and diving,* only the legs are used, and not the wings, as in the Guillemot and Auk tribes; and by their situation so far behind, and their little deviation from the line of the body, the bird is enabled to propel itself in the water with great velocity in a straight line, as well as turn with astonishing quickness."†

* I have never seen this bird diving in pursuit of fish, but I have seen it in the act of diving to avoid danger, and took notice, that its wings, when beneath the surface of the water, did not lie close to the body, but they were not as much extended as when in the act of flying. They had no visible motion, hence the presumption is, that their only use is to balance the body.

† From Mr. Ord's supplementary volume.

GENUS 92. RYNCHOPS. SKIMMER.

SPECIES. RHYNCHOPS NIGRA.

BLACK SKIMMER, OR SHEARWATER.

[Plate LX.—Fig. 4.]

Arct. Zool. No. 445.—Catesby, i, 90.—*Le Bec en Ciseaux*, Buff. viii, 454, *tab.* 36.—Peale's *Museum*, *No.* 3530.*

This truly singular fowl is the only species of its tribe hitherto discovered. Like many others, it is a bird of passage in the United States; and makes its first appearance, on the shores of New Jersey, early in May. It resides there, as well as along the whole Atlantic coast, during the summer; and retires early in September. Its favourite haunts are low sand-bars, raised above the reach of the summer tides; and also dry flat sands on the beach, in front of the ocean. On such places it usually breeds along the shores of Cape May, in New Jersey. On account of the general coldness of the spring there, the Shearwater does not begin to lay until early in June, at which time these birds form themselves into small societies, fifteen or twenty pair frequently breeding within a few yards of each other. The nest is a mere hollow, formed in the sand, without any materials. The female lays three eggs, almost exactly oval, of a clear white, marked with large round spots of brownish black, and intermixed with others of pale Indian ink. These eggs measure one inch and three quarters, by one inch and a quarter. Half a bushel and more of eggs has sometimes been collected from one sand bar, within the compass of half an acre. These eggs have something of a fishy taste; but are eaten by many people on the coast. The female sits on them only during the

* *Pl. Enl.* 357.

night, or in wet and stormy weather. The young remain for several weeks before they are able to fly; are fed with great assiduity by both parents; and seem to delight in lying with loosened wings, flat on the sand, enjoying its invigorating warmth. They breed but once in the season.

The singular conformation of the bill of this bird has excited much surprise; and some writers, measuring the divine proportions of nature by their own contracted standards of conception, in the plenitude of their vanity have pronounced it to be "an awkward and defective instrument."* Such ignorant presumption, or rather impiety, ought to hide its head in the dust on a calm display of the peculiar construction of this singular bird, and the wisdom by which it is so admirably adapted to the purposes, or mode of existence, for which it was intended. The Shearwater is formed for skimming, while on wing, the surface of the sea for its food, which consists of small fish, shrimps, young fry, &c., whose usual haunts are near the shore, and towards the surface. That the lower mandible, when dipt into and cleaving the water, might not retard the bird's way, it is thinned and sharpened like the blade of a knife; the upper mandible being at such times elevated above water, is curtailed in its length, as being less necessary, but tapering gradually to a point, that, on shutting, it may offer less opposition. To prevent inconvenience from the rushing of the water, the mouth is confined to the mere opening of the gullet, which indeed prevents mastication taking place there; but the stomach, or gizzard, to which this business is solely allotted, is of uncommon hardness, strength and muscularity, far surpassing, in these respects, any other water bird with which I am acquainted. To all these is added a vast expansion of wing, to enable the bird to sail with sufficient celerity while dipping in the water. The general proportion of the length of our swiftest Hawks and Swallows, to their breadth, is as one to two; but in the present case, as there is not only the resistance of the

* Vide Buffon.

air, but also that of the water, to overcome, a still greater volume of wing is given, the Shearwater measuring nineteen inches in length, and upwards of forty-four in extent. In short, whoever has attentively examined this curious apparatus, and observed the possessor with his ample wings, long bending neck, and lower mandible occasionally dipt into, and ploughing, the surface, and the facility with which he procures his food, cannot but consider it a mere playful amusement, when compared with the dashing immersions of the Tern, the Gull, or the Fish-Hawk, who, to the superficial observer, appear so superiorly accommodated.

The Shearwater is most frequently seen skimming close along shore, about the first of the flood, at which time the young fry, shrimp, &c., are most abundant in such places. There are also numerous inlets, among the low islands between the sea beach and main land of Cape May, where I have observed the Shearwaters, eight or ten in company, passing and repassing at high-water particular estuaries of those creeks that run up into the salt marshes, dipping, with extended neck, their open bills into the water, with as much apparent ease as Swallows glean up flies from the surface. On examining the stomachs of several of these, shot at the time, they contained numbers of a small fish, usually called *silver-sides*, from a broad line of a glossy silver colour that runs from the gills to the tail. The mouths of these inlets abound with this fry, or fish, probably feeding on the various matters washed down from the marshes.

The voice of the Shearwater is harsh and screaming, resembling that of the Tern, but stronger. It flies with a slowly flapping flight, dipping occasionally, with steady expanded wings, and bended neck, its lower mandible into the sea, and with open mouth receiving its food as it ploughs along the surface. It is rarely seen swimming on the water; but frequently rests in large parties on the sand-bars at low water. One of these birds which I wounded in the wing, and kept in the room beside me for several days, soon became tame and even familiar. It generally stood with its legs erect, its body horizontal, and

its neck rather extended. It frequently reposed on its belly, and stretching its neck, rested its long bill on the floor. It spent most of its time in this way, or in dressing and arranging its plumage, with its long scissors-like bill, which it seemed to perform with great ease and dexterity. It refused every kind of food offered it, and I am persuaded never feeds but when on the wing. As to the reports of its frequenting oyster beds, and feeding on these fish, they are contradicted by all those persons with whom I have conversed, whose long residence on the coast, where those birds are common, has given them the best opportunities of knowing.

The Shearwater is nineteen inches in length, from the point of the bill to the extremity of the tail, the tips of the wings, when shut, extend full four inches farther; breadth three feet eight inches; length of the lower mandible four inches and a half, of the upper three inches and a half, both of a scarlet red, tinged with orange, and ending with black; the lower extremely thin, the upper grooved so as to receive the edge of the lower; the nostril is large and pervious, placed in a hollow near the base and edge of the upper mandible, where it projects greatly over the lower; upper part of the head, neck, back and scapulars, deep black; wings the same, except the secondaries, which are white on the inner vanes, and also tipt with white; tail forked, consisting of twelve feathers, the two middle ones about an inch and a half shorter than the exterior ones, all black, broadly edged on both sides with white; tail-coverts white on the outer sides, black in the middle; front, passing down the neck below the eye, throat, breast, and whole lower parts, pure white; legs and webbed feet bright scarlet, formed almost exactly like those of the Tern. Weight twelve ounces avoirdupois. The female weighed nine ounces, and measured only sixteen inches in length, and three feet three inches in extent, the colours and markings were the same as those of the male, with the exception of the tail, which was white, shafted and broadly centred with black.

The birds from which these descriptions were taken, were

shot on the twenty-fifth of May, before they had begun to breed. The female contained a great number of eggs, the largest of which were about the size of duck-shot; the stomach, in both, was an oblong pouch, ending in a remarkably hard gizzard, curiously puckered or plaited, containing the half dissolved fragments of the small silver-sides, pieces of shrimps, small crabs, and skippers, or sand fleas.

On some particular parts of the coast of Virginia, these birds are seen, on low sand-bars, in flocks of several hundreds together. There more than twenty nests have been found within the space of a square rod. The young are at first so exactly of a colour with the sand on which they sit, as to be with difficulty discovered, unless after a close search.

The Shearwater leaves our shores soon after his young are fit for the journey. He is found on various coasts of Asia, as well as America, residing principally near the tropics; and migrating into the temperate regions of the globe only for the purpose of rearing his young. He is rarely or never seen far out at sea; and must not be mistaken for another bird of the same name, a species of Petrel,* which is met with on every part of the ocean, skimming with bended wings along the summits, declivities, and hollows of the waves.

* *Procellaria Puffinus*, the Shearwater Petrel.

GENUS 93. STERNA. TERN.

SPECIES 1. *STERNA HIRUNDO.*

GREAT TERN.

[Plate LX.—Fig. 1.]

Arct. Zool. p. 524.—*No.* 448.—*Le pierre garin, ou grande Hirondelle de mer,* Buff. viii, 331. *Pl. Enl.* 987.—Bewick, ii, 181.—Peale's *Museum, No.* 3485.*

This bird belongs to a tribe very generally dispersed over the shores of the ocean. Their generic characters are these:—Bill straight, sharp pointed, a little compressed and strong; nostrils linear; tongue slender, pointed; legs short; feet webbed; hind toe and its nail straight; wings long; tail generally forked. Turton enumerates twenty-five species of this genus, scattered over various quarters of the world; six of which, at least, are natives of the United States. From their long pointed wings they are generally known to seafaring people, and others residing near the seashore, by the name of *Sea Swallows;* though some few, from their near resemblance, are confounded with the Gulls.

The present species, or Great Tern, is common to the shores of Europe, Asia and America. It arrives on the coast of New Jersey about the middle or twentieth of April, led no doubt by the multitudes of fish which at that season visit our shallow bays and inlets. By many it is called the Sheep's-head Gull, from arriving about the same time with the fish of that name.

About the middle or twentieth of May this bird commences laying. The preparation of a nest, which costs most other birds so much time and ingenuity, is here altogether dispensed with.

* *Sterna Hirundo.* Gmel. *Syst.* i, *p.* 606.—*Ind. Orn. p.* 807, *No.* 15.—Briss. vi, *p.* 203. *pl.* 19, *fig.* 1.—Temm. *Man. d'Orn. p.* 740.

The eggs generally three in number, are placed on the surface of the dry drift grass, on the beach or salt marsh, and covered by the female only during the night, or in wet, raw or stormy weather. At all other times the hatching of them is left to the heat of the sun. These eggs measure an inch and three-quarters in length, by about an inch and two-tenths in width, and are of a yellowish dun colour, sprinkled with dark brown and pale Indian ink. Notwithstanding they seem thus negligently abandoned during the day, it is very different in reality. One or both of the parents are generally fishing within view of the place, and on the near approach of any person, instantly make their appearance over head; uttering a hoarse jarring kind of cry, and flying about with evident symptoms of great anxiety and consternation. The young are generally produced at intervals of a day or so from each other, and are regularly and abundantly fed for several weeks, before their wings are sufficiently grown to enable them to fly. At first the parents alight with the fish, which they have brought in their mouth, or in their bill, and tearing it in pieces distribute it in such portions as their young are able to swallow. Afterwards they frequently feed them without alighting, as they skim over the spot; and as the young become nearly ready to fly, they drop the fish among them, where the strongest and most active has the best chance to gobble it up. In the mean time, the young themselves frequently search about the marshes, generally not far apart, for insects of various kinds; but so well acquainted are they with the peculiar language of their parents, that warn them of the approach of an enemy, that on hearing their cries they instantly squat, and remain motionless until the danger be over.

The flight of the Great Tern, and indeed of the whole tribe, is not in the sweeping shooting manner of the land Swallows, notwithstanding their name; the motions of their long wings are slower, and more in the manner of the Gull. They have, however, great powers of wing and strength in the muscles of the neck, which enable them to make such sudden and violent

plunges, and that from a considerable height, too, headlong on their prey, which they never seize but with their bills. In the evening, I have remarked, as they retired from the upper parts of the bays, rivers and inlets, to the beach for repose, about breeding time, that each generally carried a small fish in his bill.

As soon as the young are able to fly, they lead them to the sandy shoals and ripples where fish are abundant; and while they occasionally feed them, teach them by their example to provide for themselves. They sometimes penetrate a great way inland, along the courses of rivers; and are occasionally seen about all our numerous ponds, lakes and rivers, most usually near the close of the summer.

This species inhabits Europe as high as Spitzbergen; is found on the arctic coasts of Siberia and Kamtschatka, and also on our own continent as far north as Hudson's Bay. In New England it is called by some the Mackerel Gull. It retires from all these places, at the approach of winter, to more congenial seas and seasons.

The Great Tern is fifteen inches long, and thirty inches in extent; bill reddish yellow, sometimes brilliant crimson, slightly angular on the lower mandible, and tipt with black; whole upper part of the head black, extending to a point half way down the neck behind, and including the eyes; sides of the neck, and whole lower parts, pure white; wing quills hoary, as if bleached by the weather, long and pointed; whole back, scapulars and wing, bluish white, or very pale lead colour; rump and tail-coverts white; tail long and greatly forked, the exterior feathers being three inches longer than the adjoining ones, the rest shortening gradually for an inch and a half to the middle ones, the whole of a pale lead colour; the outer edge of the exterior ones black; legs and webbed feet brilliant red lead; membranes of the feet deeply scalloped; claws large and black, middle one the largest. The primary quill feathers are generally dark on their inner edges. The female differs in having the two exterior feathers of the tail considerably shorter. The voice of these birds is like the harsh jarring of an opening door, on its rusted

hinges. The bone of the skull is remarkably thick and strong, as also the membrane that surrounds the brain; in this respect resembling the Woodpecker's. In both, this provision is doubtless intended to enable the birds to support, without injury, the violent concussions caused by the plunging of the one, and the chiseling of the other.

SPECIES 2. *STERNA MINUTA.*

LESSER TERN.

[Plate LX.—Fig. 2.]

Arct. Zool. No. 449.—*La petite Hirondelle de mer*, Buff. viii, 337. *Pl. Enl.* 996.—Bewick, ii, 183.—Peale's *Mseum*, *No.* 3505.*

This beautiful little species looks like the preceding in miniature, but surpasses it far in the rich glossy satin-like white plumage with which its throat, breast, and whole lower parts, are covered. Like the former, it is also a bird of passage, but is said not to extend its migrations to so high a northern latitude, being more delicate, and susceptible of cold. It arrives on the coast somewhat later than the other, but in equal and perhaps greater numbers; coasts along the shores, and also over the pools, in the salt marshes, in search of prawns, of which it is particularly fond; hovers, suspended in the air, for a few moments above its prey, exactly in the manner of some of our small Hawks, and dashes headlong down into the water after it, generally seizing it with its bill; mounts instantly again to the same height, and moves slowly along as before, eagerly examining the surface below. About the twenty-fifth of May, or beginning of June, the female begins to lay. The eggs are dropt on the dry and warm sand, the heat of which, during the day, is fully sufficient for the purpose of incubation. This heat is sometimes so great, that one can scarcely bear the hand in it for a few moments, without inconvenience. The wonder would therefore be the greater should the bird sit on her eggs during

* *Sterna minuta*, Gmel. *Syst.* i, p. 608.—*Ind. Orn.* p. 809, No. 19.—*Sterna melopoleucos*, *Ib* No. 22.—Briss. vi, p. 206, *pl.* 19. fig. 2.—Temm. *Man d'Orn.* p. 752.

the day, when her warmth is altogether unnecessary, and perhaps injurious, than that she should cover them only during the damps of night, and in wet and stormy weather; and furnishes another proof that the actions of birds are not the effect of mere blind impulse, but of volition, regulated by reason, depending on various incidental circumstances, to which their parental cares are ever awake. I lately visited those parts of the beach on Cape May, where this little bird breeds. The eggs, generally four in number, where placed on the flat sands, safe beyond the reach of the highest summer tide. They were of a yellowish brown colour, blotched with rufous, and measured nearly an inch and three-quarters in length. During my whole stay, these birds flew in crowds around me, and often within a few yards of my head, squeaking like so many young pigs, which their voice strikingly resembles. A Humming-bird, that had accidentally strayed to the place, appeared suddenly among this outrageous group, several of whom darted angrily at him; but he shot like an arrow from them, directing his flight straight towards the ocean. I have no doubt but the distressing cries of the Terns had drawn this little creature to the scene, having frequently witnessed his anxious curiosity on similar occasions in the woods.

The Lesser Tern feeds on beetles, crickets, spiders, and other insects, which it picks up from the marshes; as well as on small fish, on which it plunges at sea. Like the former, it also makes extensive incursions, inland, along the river courses, and has frequently been shot several hundred miles from the sea. It sometimes sits for hours together on the sands, as if resting after the fatigues of flight to which it is exposed.

The Lesser Tern is extremely tame and unsuspicious, often passing you in its flight, and within a few yards, as it traces the windings and indentations of the shore in search of it favourite prawns and skippers. Indeed at such times it appears either altogether heedless of man, or its eagerness for food overcomes its apprehensions for its own safety. We read in ancient authors, that the fishermen used to float a cross of wood, in the

middle of which was fastened a small fish for a bait, with limed twigs stuck to the four corners, on which the bird darting was entangled by the wings. But this must have been for mere sport, or for its feathers, the value of the bird being scarcely worth the trouble, as they are generally lean, and the flesh savouring strongly of fish.

The Lesser Tern is met with in the south of Russia, and about the Black and Caspian sea; also in Siberia about the Irtish.* With the former, it inhabits the shores of England during the summer, where it breeds, and migrates, as it does here, to the south, as the cold of autumn approaches.

This species is nine and a half inches long, and twenty inches in extent; bill bright reddish yellow; nostril pervious; lower mandible angular; front white, reaching in two narrow points over the eye; crown, band through the eye, and hind-head, black, tapering to a point as it descends; cheeks, sides of the neck, and whole lower parts, of the most rich and glossy white, like the brightest satin; upper parts of the back and wings a pale glossy ash or light lead colour; the outer edges of the three exterior primaries black, their inner edges white; tail pale ash, but darker than the back, and forked, the two outer feathers an inch longer, tapering to a point; legs and feet reddish yellow; webbed feet, claws and hind toe, exactly formed like those of the preceding. The female nearly resembles the male, with the exception of having the two exterior tail feathers shorter.

* Pennant.

SPECIES 3. *STERNA ARANEA.*

MARSH TERN.

[Plate LXXII.—Fig. 6.]

PEALE'S *Museum*, *No.* 3521.

THIS new species I first met with on the shores of Cape May, particularly over the salt marshes, and darting down after a kind of large black spider, plenty in such places. This spider can travel under water as well as above, and, during summer at least, seems to constitute the principal food of the present Tern. In several which I opened, the stomach was crammed with a mass of these spiders alone; these they frequently pick up from the pools as well as from the grass, dashing down on them in the manner of their tribe. Their voice is sharper and stronger than that of the Common Tern; the bill is differently formed, being shorter, more rounded above, and thicker; the tail is also much shorter, and less forked. They do not associate with the others; but keep in small parties by themselves.

The Marsh Tern is fourteen inches in length, and thirty-four in extent; bill thick, much rounded above, and of a glossy blackness; whole upper part of the head and hind neck black; whole upper part of the body hoary white; shafts of the quill and tail feathers pure white; line from the nostril under the eye, and whole lower parts pure white; tail forked, the outer feathers about an inch and three-quarters longer than the middle ones, the wings extend upwards of two inches beyond the tail; legs and feet black, hind toe small, straight, and pointed.

The female, as to plumage, differs in nothing from the male. The yearling birds, several of which I met with, have the plumage of the crown white at the surface, but dusky below; so that the boundaries of the black; as it will be in the perfect bird,

are clearly defined; through the eye a line of black passes down the neck for about an inch, reaching about a quarter of an inch before it; the bill is not so black as in the others; the legs and feet dull orange, smutted with brown or dusky; tips and edges of the primaries blackish; shafts white.

This species breeds in the salt marshes, the female drops her eggs, generally three or four in number, on the dry drift grass, without the slightest appearance of a nest; they are of a greenish olive, spotted with brown.

A specimen of this Tern has been deposited in the Museum of this city.

SPECIES 4. *STERNA PLUMBEA.**

SHORT-TAILED TERN.

[Plate LX.—Fig. 3.]

PEALE'S *Museum*, *No.* 3519.

A SPECIMEN of this bird was first sent me by Mr. Beasley of Cape May; but being in an imperfect state, I could form no correct notion of the species; sometimes supposing it might be a young bird of the preceding Tern. Since that time, however, I have had an opportunity of procuring a considerable number of this same kind, corresponding almost exactly with each other. I have ventured to introduce it in this place as a new species; and have taken pains to render the figure in the plate a correct likeness of the original.

On the sixth of September, 1812, after a violent north-east storm, which inundated the meadows of Schuylkill in many places, numerous flocks of this Tern all at once made their appearance, flying over those watery spaces, picking up grasshoppers, beetles, spiders, and other insects, that were floating on the surface. Some hundreds of them might be seen at the same time, and all seemingly of one sort. They were busy, silent and unsuspicious, darting down after their prey without hesitation, though perpetually harassed by gunners, whom the novelty of their appearance had drawn to the place. Several flocks of the Yellow-shanks Snipe, and a few Purres, appeared also in the meadows at the same time, driven thither, doubtless, by the violence of the storm.

I examined upwards of thirty individuals of this species, by

* Prince Musignano asserts that this is the young of the *Sterna nigra*, a bird inhabiting Europe as well as this country, and of which many nominal species have been made. In this opinion he is probably correct.

dissection, and found both sexes alike in colour. Their stomachs contained grasshoppers, crickets, spiders, &c. but no fish. The people on the seacoast have since informed me, that this bird comes to them only in the fall, or towards the end of summer; and is more frequently seen about the mill-ponds, and fresh water marshes, than in the bays; and add, that it feeds on grasshoppers, and other insects, which it finds on the meadows and marshes, picking them from the grass, as well as from the surface of the water. They have never known it to associate with the Lesser Tern, and consider it altogether a different bird. This opinion seems confirmed by the above circumstances, and by the fact of its greater extent of wing, being full three inches wider than the Lesser Tern; and also making its appearance after the others have gone off.

The Short-tailed Tern measures eight inches and a half, from the point of the bill to the tip of the tail, and twenty-three inches in extent; the bill is an inch and a quarter in length, sharp pointed, and of a deep black colour; a patch of black covers the crown, auriculars, spot before the eye, and hind-head; the forehead, eyelids, sides of the neck, passing quite round below the hind-head, and whole lower parts, are pure white; the back is dark ash, each feather broadly tipt with brown; the wings a dark lead colour, extending an inch and a half beyond the tail, which is also of the same tint, and slightly forked; shoulders of the wing brownish ash; legs and webbed feet tawny. It had a sharp shrill cry when wounded and taken.

This is probably the *Brown Tern* mentioned by Willoughby, of which so many imperfect accounts have already been given. The figure in the plate, like those which accompany it, is reduced to one half the size of life.

SPECIES 5. *STERNA FULIGINOSA.*

SOOTY TERN.

[Plate LXXII.—Fig. 7.]

Le Hirondelle de Mer à grande enverguer, Buff. viii, *p.* 345.—*Egg bird*, Forst. *Voy. p.* 113.—*Noddy*, Damp. *Voy.* iii, *p.* 142.—*Arct. Zool. No.* 447.—Lath. *Syn.* iii, *p.* 352.—Peale's *Museum, No.* 3459.*

This bird has been long known to navigators, as its appearance at sea usually indicates the vicinity of land; instances, however, have occurred in which they have been met with one hundred leagues from shore.† The species is widely dispersed over the various shores of the ocean. They were seen by Dampier in New Holland; are in prodigious numbers in the island of Ascension; and in Christmas Island are said to lay, in December, one egg on the ground; the egg is yellowish, with brown and violet spots.‡ In passing along the northern shores of Cuba and the coast of Florida and Georgia, in the month of July, I observed this species very numerous and noisy, dashing down headlong after small fish. I shot and dissected several, and found their stomachs uniformly filled with fish. I could perceive little or no difference between the colours of the male and female.

Length of the Sooty Tern seventeen inches, extent three feet six inches; bill an inch and a half long, sharp pointed and rounded above, the upper mandible serrated slightly near the point; nostril an oblong slit, colour of the bill glossy black; irides dusky; forehead as far as the eyes white; whole lower parts and

* *Sterna fuliginosa*, Gmel. *Syst.* i, p. 605.—*Ind. Orn.* p. 804, No. 4. *Gen. Syn.* iii, p. 352, No. 4.

† Cook, Voy. i, p. 275

‡ Turton.

sides of the neck pure white; rest of the plumage black; wings very long and pointed, extending, when shut, nearly to the extremity of the tail, which is greatly forked, and consists of twelve feathers, the two exterior ones four inches longer than those of the middle, the whole of a deep black, except the two outer feathers, which are white, but towards the extremities a little blackish on the inner vanes; legs and webbed feet black, hind toe short.

The secondary wing feathers are eight inches shorter than the longest primary.

This bird frequently settles on the rigging of ships at sea, and, in common with another species, *S. Stolida*, is called by sailors the Noddy.

GENUS 94. LARUS. GULL.

SPECIES. L. ATRICILLA.

LAUGHING GULL.

[Plate LXXIV.—Fig. 4.]

Larus atricilla, Linn. *Syst. ed.* 10, *tom.* i, *p.* 136, 5.—Gmel. *Syst.* i, *p.* 600, 8.—*Ind. Orn. p.* 813, 4.—*Laughing Gull*, Catesby, i, *Pl.* 89.—Lath. *Gen. Syn.* iii, *p.* 383, 12.—*Arct. Zool. No.* 454.—*La Mouette rieuse*, Briss. vi, *p.* 192, 13, *pl.* 18, *fig.* 1. —*Mouette à capuchon plombé*, Temm. *Man. d'Orn. p.* 779.—Peale's *Museum*, *No.* 3381.

Length seventeen inches, extent three feet six inches; bill, thighs, legs, feet, sides of the mouth and eyelids, dark blood red; inside of the mouth vermilion; bill nearly two inches and a half long; the nostril is placed rather low; the eyes are black; above and below each eye there is a spot of white; the head and part of the neck are black, remainder of the neck, breast, whole lower parts, tail-coverts and tail, pure white; the scapulars, wing-coverts, and whole upper parts, are of a fine blue ash colour; the first five primaries are black towards their extremities; the secondaries are tipt largely with white, and almost all the primaries slightly; the bend of the wing is white, and nearly three inches long; the tail is almost even, it consists of twelve feathers, and its coverts reach within an inch and a half of its tip; the wings extend two inches beyond the tail; a delicate blush is perceivable on the breast and belly. Length of tarsus two inches.

The head of the female is of a dark dusky slate colour, in other respects she resembles the male.

In some individuals, the crown is of a dusky gray; the upper part and sides of the neck of a lead colour; the bill and legs of

a dirty, dark, purplish brown. Others have not the white spots above and below the eyes; these are young birds.

The changes of plumage, to which birds of this genus are subject, have tended not a little to confound the naturalist; and a considerable collision of opinion, arising from an imperfect acquaintance with the living subjects, has been the result. To investigate thoroughly their history, it is obviously necessary that the ornithologist should frequently explore their native haunts; and to determine the species of periodical or occasional visiters, an accurate comparative examination of many specimens, either alive, or recently killed, is indispensable. Less confusion would arise among authors, if they would occasionally abandon their accustomed walks—their studies and their museums, and seek *correct* knowledge in the only place where it is to be obtained—in the grand Temple of Nature. As it respects, in particular, the tribe under review, the zealous inquirer would find himself amply compensated for all his toil, by observing these neat and clean birds coursing along the rivers and coast, enlivening the prospect by their airy movements: now skimming closely over the watery element, watching the motions of the surges, and now rising into the higher regions, sporting with the winds; while he inhaled the invigorating breezes of the ocean, and listened to the soothing murmurs of its billows.

The Laughing Gull, known in America by the name of the Black-headed Gull, is one of the most beautiful and most sociable of its genus. They make their appearance, on the coast of New Jersey, in the latter part of April; and do not fail to give notice of their arrival, by their familiarity and loquacity. The inhabitants treat them with the same indifference that they manifest towards all those harmless birds, which do not minister either to their appetite or their avarice; and hence the Black-heads may be seen in companies around the farm-house; coursing along the river shores, gleaning up the refuse of the fishermen, and the animal substances left by the tide; or scattered over the marshes, and newly-ploughed fields, regaling on the worms,

insects and their larvæ, which, in the vernal season, the bounty of Nature provides for the sustenance of myriads of the feathered race.

On the Jersey side of the Delaware bay, in the neighbourhood of Fishing-creek, about the middle of May, the Black-headed Gulls assemble in great multitudes, to feed upon the remains of the King Crabs, which the hogs have left, or upon the spawn, which those curious animals deposite in the sand, and which is scattered along the shore by the waves. At such times, if any one approach to disturb them, the Gulls will rise up in clouds, every individual squalling so loud, that the roar may be heard at the distance of two or three miles.

It is an interesting spectacle to behold this species when about recommencing their migrations. If the weather be calm, they will rise up in the air, spirally, chattering all the while to each other, in the most sprightly manner, their notes, at such times, resembling the singing of a hen, but far louder, changing often into a *haw, ha ha ha haw!* the last syllable lengthened out like the excessive laugh of a negro. When mounting and mingling together, like motes in the sunbeams, their black heads and wing tips, and snow-white plumage, give them a very beautiful appearance. After gaining an immense height, they all move off, with one consent, in a direct line towards the point of their destination.

This bird breeds in the marshes. The eggs are three in number, of a dun clay colour, thinly marked with small irregular touches of a pale purple, and pale brown; some are of a deeper dun, with larger marks, and less tapering than others; the egg measures two inches and a quarter by one inch and a half.

The Black-heads frequently penetrate into the interior, especially as far as Philadelphia; but they seem to prefer the neighbourhood of the coast, for the purpose of breeding. They retire southward early in the autumn.*

* From Mr. Ord's supplementary volume.

GENUS 95. PROCELLARIA, PETREL.

*SPECIES. P. PELAGICA.**

STORMY PETREL.

[Plate LX.—Fig. 6.]

Arct. Zool. No. 464.—*Le Petrel; ou l'Oiseau tempete, Pl. Enl.* 993. —Bewick, II, 223.—Peale's *Museum*, 3034.

There are few persons who have crossed the Atlantic, or traversed much of the ocean, who have not observed these solitary wanderers of the deep, skimming along the surface of the wild and wasteful ocean; flitting past the vessel like Swallows, or following in her wake, gleaning their scanty pittance of food from the rough and whirling surges. Habited in mourning, and making their appearance generally in greater numbers previous to or during a storm, they have long been fearfully regarded by the ignorant and superstitious, not only as the foreboding messengers of tempests and dangers to the hapless mariner; but as wicked agents, connected, some how or other, in creating them. "Nobody," say they, "can tell any thing of where they come from, or how they breed, though (as sailors sometimes say) it is supposed that they hatch their eggs under their wings as they sit on the water." This mysterious uncertainty of their origin, and the circumstances above recited, have doubtless given rise to the opinion so prevalent among this class of men, that they are in some way or other connected with that personage who has been styled the prince of the Power of the Air. In every country where they are known, their names have borne some

* *Procellaria Wilsonii*, Bonaparte, *Journal Acad. Nat. Sc. Ph. vol.* III, *p.* 231. —It is not the *P. pelagica;* of course the synonymes quoted by our author do not belong to this bird.

affinity to this belief. They have been called *Witches;** *Stormy Petrels;* the *Devil's Birds; Mother Carey's Chickens,*† probably from some celebrated ideal hag of that name; and their unexpected and numerous appearance has frequently thrown a momentary damp over the mind of the hardiest seaman.

It is the business of the naturalist, and the glory of philosophy, to examine into the reality of these things; to dissipate the clouds of error and superstition wherever they begin to darken and bewilder the human understanding; and to illustrate Nature with the radiance of truth. With these objects in view, we shall now proceed, as far as the few facts we possess will permit, in our examination into the history of this celebrated species.

The *Stormy Petrel,* the least of the whole twenty-four species of its tribe enumerated by ornithologists, and the smallest of all palmated fowls, is found over the whole Atlantic ocean, from Europe to North America, at all distances from land, and in all weathers; but is particularly numerous near vessels immediately preceding and during a gale, when flocks of them crowd in her wake, seeming then more than usually active in picking up various matters from the surface of the water. This presentiment of a change of weather is not peculiar to the Petrel alone; but is noted in many others, and common to all, even to those long domesticated. The Woodpeckers, the Snow-birds, the Swallows, are all observed to be uncommonly busy before a storm, searching for food with great eagerness, as if anxious to provide for the privations of the coming tempest. The common Ducks and the Geese are infallibly noisy and tumultuous before falling weather; and though, with these, the attention of man renders any extra exertions for food at such times unnecessary, yet they wash, oil, dress and arrange their plumage with uncommon diligence and activity. The intelligent and observing farmer remarks this bustle, and wisely prepares for the issue; but he

* Arct. Zool. p. 464.

† This name seems to have been originally given them by captain Carteret's sailors, who met with these birds on the coast of Chili. See Hawkesworth's Voyages, vol. i, p. 203.

is not so ridiculously absurd as to suppose, that the storm which follows is produced by the agency of these feeble creatures, who are themselves equal sufferers by its effects with man. He looks on them rather as useful monitors, who from the delicacy of their organs, and a perception superior to his own, point out the change in the atmosphere before it has become sensible to his grosser feelings; and thus, in a certain degree, contribute to his security. And why should not those who navigate the ocean contemplate the appearance of this unoffending little bird in like manner, instead of eyeing it with hatred and execration? As well might they curse the midnight light-house, that, star-like, guides them on their watery way, or the buoy, that warns them of the sunken rocks below, as this harmless wanderer, whose manner informs them of the approach of the storm, and thereby enables them to prepare for it.

The Stormy Petrels, or Mother Carey's Chickens, breed in great numbers on the rocky shores of the Bahama and the Bermuda islands, and in some places on the coast of East Florida and Cuba. They breed in communities like the Bank Swallows, making their nests in the holes and cavities of the rocks above the sea, returning to feed their young only during the night, with the superabundant oily food from their stomachs. At these times they may be heard making a continued cluttering sound like frogs during the whole night. In the day they are silent, and wander widely over the ocean. This easily accounts for the vast distance they are sometimes seen from land, even in the breeding season. The rapidity of their flight is at least equal to the fleetness of our Swallows. Calculating this at the rate of one mile per minute, twelve hours would be sufficient to waft them a distance of seven hundred and twenty miles; but it is probable that the far greater part confine themselves much nearer land during that interesting period.

In the month of July, while on a voyage from New Orleans to New York, I saw few or none of these birds in the gulf of Mexico, although our ship was detained there by calms for twenty days, and carried by currents as far south as cape An-

tonio, the westernmost extremity of Cuba. On entering the gulf stream, and passing along the coasts of Florida and the Carolinas, these birds made their appearance in great numbers, and in all weathers; contributing much, by their sprightly evolutions of wing, to enliven the scene; and affording me every day several hours of amusement. It is indeed an interesting sight to observe these little birds in a gale, coursing over the waves, down the declivities, up the ascents of the foaming surf, that threatens to burst over their heads; sweeping along the hollow troughs of the sea, as in a sheltered valley, and again mounting with the rising billow, and, just above its surface, occasionally dropping their feet, which, striking the water, throw them up again with additional force; sometimes leaping, with both legs parallel, on the surface of the roughest waves for several yards at a time. Meanwhile they continue coursing from side to side of the ship's wake, making excursions far and wide, to the right and to the left, now a great way ahead, and now shooting astern for several hundred yards, returning again to the ship as if she were all the while stationary, though perhaps running at the rate of ten knots an hour! But the most singular peculiarity of this bird is its faculty of standing, and even running, on the surface of the water, which it performs with apparent facility. When any greasy matter is thrown overboard, these birds instantly collect around it, and facing to windward, with their long wings expanded, and their webbed feet patting the water, the lightness of their bodies, and the action of the wind on their wings, enable them to do this with ease. In calm weather they perform the same manœuvre, by keeping their wings just so much in action as to prevent their feet from sinking below the surface. According to Buffon,* it is from this singular habit that the whole genus have obtained the name Petrel, from the apostle Peter, who, as Scripture informs us, also walked on the water.

As these birds often come up immediately under the stern,

* Tome xxiii, p. 299.

one can examine their form and plumage with nearly as much accuracy as if they were in the hand. They fly with the wings forming an almost straight horizontal line with the body, the legs extended behind, and the feet partly seen stretching beyond the tail. Their common note of "*weet, weet,*" is scarcely louder than that of a young Duck of a week old, and much resembling it. During the whole of a dark, wet and boisterous, night which I spent on deck, they flew about the after rigging, making a singular hoarse chattering, which in sound resembled the syllables *patret tu cuk cuk tu tu*, laying the accent strongly on the second syllable *tret*. Now and then I conjectured that they alighted on the rigging, making than a lower curring noise.

Notwithstanding the superstitious fears of the seamen, who dreaded the vengeance of the survivors, I shot fourteen of these birds one calm day, in lat. 33°, eighty or ninety miles off the coast of Carolina, and had the boat lowered to pick them up. These I examined with considerable attention, and found the most perfect specimens as follow:

Length six inches and three quarters, extent thirteen inches and a half; bill black, nostrils united in a tubular projection, the upper mandible grooved thence, and overhanging the lower like that of a bird of prey; head, back and lower parts, brown sooty black; greater wing-coverts pale brown, minutely tipt with white; sides of the vent, and whole tail-coverts, pure white; wings and tail deep black, the latter nearly even at the tip, or very slightly forked; in some specimens, two or three of the exterior tail feathers were white for an inch or so at the root; legs and naked part of the thighs black; feet webbed, with the slight rudiments of a hind toe, the membrane of the foot is marked with a spot of straw yellow, and finely serrated along the edges; eyes black. Male and female differing nothing in colour.

On opening these I found the first stomach large, containing numerous round semitransparent substances, of an amber colour, which I at first suspected to be the spawn of some fish; but on a

more close and careful inspection, they proved to be a vegetable substance, evidently the seeds of some marine plant, and about as large as mustard seed. The stomach of one contained a fish, half digested, so large that I should have supposed it too bulky for the bird to swallow; another was filled with the tallow which I had thrown overboard; and all had quantities of the seeds already mentioned, both in their stomaches and gizzards; in the latter were also numerous minute pieces of barnacle shells. On a comparison of the seeds above mentioned with those of the *gulf-weed*, so common and abundant in this part of the ocean, they were found to be the same. Thus it appears, that these seeds floating perhaps a little below the surface, and the barnacles with which ships' bottoms usually abound, being both occasionally thrown up to the surface by the action of the vessel through the water, in blowing weather, entice these birds to follow in the ship's wake at such times, and not, as some have imagined, merely to seek shelter from the storm, the greatest violence of which they seem to disregard. There is also the greasy dish washings, and other oily substances, thrown over by the cook, on which they feed with avidity; but with great good nature, their manners being so gentle, that I never observed the slightest appearance of quarrelling or dispute among them.

One circumstance is worthy of being noticed, and shows the vast range they take over the ocean. In firing at these birds, a quill feather was broken in each wing of an individual, and hung fluttering in the wind, which rendered it so conspicuous among the rest, as to be known to all on board. This bird, notwithstanding its inconvenience, continued with us for nearly a week, during which we sailed a distance of more than four hundred miles to the north. Flocks continued to follow us until near Sandy Hook.

The length of time these birds remain on wing is no less surprising. As soon as it was light enough in the morning to perceive them, they were found roaming about as usual; and I have often sat in the evening, in the boat which was suspended at

the ship's stern, watching their movements, until it was so dark that the eye could no longer follow them, though I could still hear their low note of *weet weet*, as they approached near to the vessel below me.

These birds are sometimes driven by violent storms to a considerable distance inland. One was shot some years ago on the river Schuylkill, near Philadelphia; and Bewick mentions their being found in various quarters of the interior of England. From the nature of their food, their flesh is rank and disagreeable; though they sometimes become so fat, that, as Mr. Pennant, on the authority of Brunnich, asserts, "the inhabitants of the Feroe isles make them serve the purposes of a candle, by drawing a wick through the mouth and rump, which being lighted, the flame is fed by the fat and oil of the body."*

Note. When this work was published, its author was not aware that those birds observed by navigators in almost every quarter of the globe, and known under the name of Stormy Petrels, formed several distinct species; consequently, relying on the labours of his predecessors, he did not hesitate to name the subject of this chapter the *Pelagica*, believing it to be identical with that of Europe. But the investigations of later ornithologists having resulted in the conviction that Europe possessed at least two species of these birds, it became a question whether or not those which are common on the coasts of the United States would form a third species; and an inquiry has established the fact that the American Stormy Petrel, hitherto supposed to be the true *Pelagica*, is an entirely distinct species. For this discovery we are indebted to the labours of Charles Bonaparte, from whose interesting paper on the subject, published in the Journal of the Academy of Natural Sciences of Philadelphia, we shall take the liberty of making an extract. The author of the paper in question first describes and figures the true *Pelagica* of the systems; secondly, the *Leachii*, a species described by Temminck, and restricted to the vicinity of the island of St.

* Brit. Zool. vol. ii, p. 434.

Kilda, but which the former found diffused over a great part of the Atlantic, east of the Banks of Newfoundland; and thirdly, the species of our coasts. He also indicates a fourth, which inhabits the Pacific ocean; but whether or not this last be in reality a species different from those named, has not yet been determined.*

"When I first procured this species," says Mr. Bonaparte, "I considered it a nondescript, and noted it as such; the citation of Wilson's *pelagica*, among the synonymes of the true *pelagica*, by the most eminent ornithologist of the age, M. Temminck, not permitting a doubt of their identity. But having an opportunity of inspecting the very individual from which Wilson took his figure, and drew up his description, I was undeceived, by proving the unity of my specimens with that of Wilson, and the discrepancy of these with that of Temminck. The latter had certainly never seen an individual from America, otherwise the difference between the two species would not have eluded the accurate eye of this naturalist. I propose for this species the name of *Wilsonii*, as a small testimony of respect to the memory of the author of the American Ornitho-

* Charles Bonaparte, Prince of Musignano, has recently established this species under the name of *Procellaria Oceanica;* and assigns to it the following essential characters.—*Tail* slightly emarginate, the *wings* when closed extending more than an inch beyond its tip; length of the *tarsus* nearly one inch and three quarters (eighteen French lines.)

We extract from his paper, in the Zoological Journal the following observations: "In comparing this species (*P. oceanica*) to the three others (*P. pelagica, P. Leachii, and P. Wilsonii*), it will be seen that it is the largest and the most varied with white of the subgenus, and that it can be confounded only with *P. Wilsonii*, to which it bears a strong resemblance in shape and colour, both having the tarsi greatly elongated, the tube of the nostrils equally recurved, the upper tail-coverts entirely white, &c. But in addition to its much greater size, proportionally longer bill and tarsi, and lighter colour, this new species may at first sight be distinguished from it by its wings extending so much beyond the tail, and by the want of the yellow spot on the interdigital membrane, which is found in *P. Wilsonii* only." *J. H.*

logy, whose loss science and America will long deplore. The yellow spot upon the membrane of the feet distinguishes this species, at first sight, from the others; and this character remains permanent in the dried specimens." *G. Ord.*

GENUS 96. MERGUS. MERGANSER.

SPECIES 1. *M. MERGANSER.*

GOOSANDER.

[Plate LXVIII.—Fig. 1, *Male.*]

L'Harle, Briss. vi, *p.* 231. 1. *pl.* 22.—Buff. viii, *p.* 267. *pl.* 23. —*Arct. Zool. No.* 465.—Lath. *Syn.* iii, *p.* 418.—Peale's *Museum*, *No.* 2932.*

This large and handsomely marked bird belongs to a genus different from that of the *Duck*, on account of the particular form and serratures of its bill. The genus is characterised as follows: "*Bill* toothed, slender, cylindrical, hooked at the point; *nostrils* small, oval, placed in the middle of the bill; *feet* four toed, the outer toe longest." Naturalists have denominated it *Merganser*. In this country the birds composing this genus are generally known by the name of Fishermen, or Fisher ducks. The whole number of known species amount to only nine or ten, dispersed through various quarters of the world; of these, four species, of which the present is the largest, are known to inhabit the United States.

From the common habit of these birds in feeding almost entirely on fin and shell fish, their flesh is held in little estimation, being often lean and rancid, both smelling and tasting strongly of fish; but such are the various peculiarites of tastes, that persons are not wanting who pretend to consider them capital meat.

The Goosander, called by some the Water Pheasant, and by

* *Mergus Merganser*, Gmel. *Syst.* i, p. 544, *No.* 2.—Lath. *Ind. Orn.* p. 828, *No.* 1.—*Le Harle*, Buff. *Pl. Enl.* 951, male.—*Grand Harle*, Temm. *Man. d'Orn.* p. 881.

others the Sheldrake, Fisherman, Diver, &c. is a winter inhabitant only, of the seashores, fresh water lakes, and rivers of the United States. They usually associate in small parties of six or eight, and are almost continually diving in search of food. In the month of April they disappear, and return again early in November. Of their particular place and manner of breeding we have no account. Mr. Pennant observes that they continue the whole year in the Orknies; and have been shot in the Hebrides, or Western islands of Scotland in summer. They are also found in Iceland, and Greenland, and are said to breed there; some asserting that they build on trees; others that they make their nests among the rocks.

The male of this species is twenty-six inches in length, and three feet three inches in extent, the bill three inches long, and nearly one inch thick at the base, serrated on both mandibles; the upper overhanging at the tip, where each is furnished with a large nail; the ridge of the bill is black, the sides crimson red; irides red; head crested, tumid, and of a black colour glossed with green, which extends nearly half way down the neck, the rest of which, with the breast and belly, are white tinged with a delicate yellowish cream; back and adjoining scapulars black; primaries and shoulder of the wing brownish black; exterior part of the scapulars, lesser coverts, and tertials white; secondaries neatly edged with black, greater coverts white, their upper halves black, forming a bar on the wing, rest of the upper parts and tail brownish ash; legs and feet the colour of red sealing wax; flanks marked with fine semicircular dotted lines of deep brown; the tail extends about three inches beyond the wings.

This description was taken from a full plumaged male. The young males, which are generally much more numerous than the old ones, so exactly resemble the females in their plumage for at least the first, and part of the second year, as scarcely to be distinguished from them; and what is somewhat singular, the crests of these and of the females are actually longer than those of the full grown male, though thinner towards its extre-

mites. These circumstances have induced some late Ornithologists to consider them as two different species, the young, or female, having been called the *Dun Diver*. By this arrangement they have entirely deprived the Goosander of his female; for in the whole of my examinations and dissections of the present species, I have never yet found the female in *his* dress. What I consider as undoubtedly the true female of this species is figured beside him. They were both shot in the month of April, in the same creek, unaccompanied by any other, and on examination the sexual parts of each were strongly and prominently marked. The windpipe of the female had nothing remarkable in it; that of the male had two very large expansions, which have been briefly described by Willoughby, who says: "It hath a large bony labyrinth on the windpipe, just above the divarications; and the windpipe hath besides two swellings out, one above another, each resembling a powder puff." These labyrinths are the distinguishing characters of the males; and are always found even in young males who have not yet thrown off the plumage of the female, as well as in the old ones. If we admit these Dun divers to be a distinct species, we can find no difference between their pretended females and those of the Goosander, only one kind of female of this sort being known, and this is contrary to the usual analogy of the other three species, *viz.* the *Red breasted* Merganser, the *Hooded* and the *Smew*, all of whose females are well known, and bear the same comparative resemblance in colour to their respective males, the length of crest excepted, as the female Goosander we have figured bears to him.

Having thought thus much necessary on this disputed point, I leave each to form his own opinion on the facts and reasoning produced, and proceed to describe the female.

MERGUS. MERGANSER.

GOOSANDER.

[Plate LXVIII.—Fig. 2. *Female.*]

Peale's *Museum, No.* 2933.—*Dun Diver,* Lath. *Syn.* iii, *p.* 420. —*Arct. Zool. No.* 465.—Bewick's *Brit. Birds,* ii, *p.* 23.—Turt. *Syst. p.* 335.—*L'Harle femelle,* Briss. vi, *p.* 236.—Buff. viii, *p.* 272.—*Pl. Enl.* 953.*

This generally measures an inch or two shorter than the male; the length of the present specimen was twenty-five inches, extent thirty-five inches; bill crimson on the sides, black above; irides reddish; crested head and part of the neck dark brown, lightest on the sides of the neck, where it inclines to a sorrel colour; chin and throat white; the crest shoots out in long radiating flexible stripes; upper part of the body, tail, and flanks an ashy slate, tinged with brown; primaries black; middle secondaries white, forming a large speculum on the wing; greater coverts black, tipt for half an inch with white; sides of the breast, from the sorrel coloured part of the neck downwards, very pale ash, with broad semicircular touches of white; belly and lower part of the breast a fine yellowish cream colour, a distinguishing trait also in the male; legs and feet orange red.

**Mergus Castor,* Gmel. *Syst.* i, p. 545, *et var.*—Lath. *Ind. Orn. p.* 829, No. 2. —*Dun Diver,* Montagu, Orn. Dict. Sup.

SPECIES 2. MERGUS SERRATOR.

RED-BREASTED MERGANSER.

[Plate LXIX.—Fig. 2.]

L'Harle huppe, Briss. vi, *p.* 237. 2. *pl.* 23.—Buff. viii, *p.* 273. —*Pl. Enl.* 207.—Bewick, ii, *p.* 235. Edw. *pl.* 95.—Lath. *Syn.* iii, *p.* 432.—Peale's *Museum*, *No.* 2936.

This is much more common in our fresh waters than either of the preceding, and is frequently brought to the Philadelphia market from the shores of the Delaware. It is an inhabitant of both continents. In the United States it is generally migratory; though a few are occasionally seen in autumn, but none of their nests have as yet come under my notice. They also frequent the seashore, keeping within the bays and estuaries of rivers. They swim low in the water, and when wounded in the wing, very dexterously contrive to elude the sportsman or his dog, by diving and coming up at a great distance, raising the bill only, above water, and dipping down again with the greatest silence. The young males of a year old are often found in the plumage of the female; their food consists of small fry, and various kinds of shell fish.

The Red-Breasted Merganser is said by Pennant to breed on Loch Mari in the county of Ross, in North Britain; and also in the isle of Ilay. Latham informs us that it inhabits most parts of the north of Europe on the continent, and as high as Iceland; also in the Russian dominions about the great rivers of Siberia, and the lake Baikal. Is said to be frequent in Greenland, where it breeds on the shores. The inhabitants often take it by darts thrown at it, especially in August, being then in moult. At Hudson's Bay, according to Hutchins, they come in pairs about the beginning of June, as soon as the ice breaks up, and build

soon after their arrival, chiefly on dry spots of ground in the islands; lay from eight to thirteen white eggs, the size of those of a duck; the nest is made of withered grass, and lined with the down of the breast. The young are of a dirty brown like young goslins. In October they all depart southward to the lakes, where they may have open water.

This species is twenty-two inches in length, and thirty-two in extent; the bill is two inches and three quarters in length, of the colour of bright sealing wax, ridged above with dusky; the nail at the tip large, blackish, and overhanging; both mandibles are thickly serrated; irides red; head furnished with a long hairy crest which is often pendent, but occasionally erected, as represented in the plate; this and part of the neck is black glossed with green; the neck under this for two or three inches is pure white; ending in a broad space of reddish ochre spotted with black, which spreads over the lower part of the neck and sides of the breast; shoulders, back, and tertials deep velvetty black, the first marked with a number of singular roundish spots of white; scapulars white; wing coverts mostly white, crossed by two narrow bands of black; primaries black, secondaries white, several of the latter edged with black; lower part of the back, the rump and tail coverts gray speckled with black; sides under the wings elegantly crossed with numerous waving lines of black; belly and vent white; legs and feet red; the tail dusky ash; the black of the back passess up the hind neck in a narrow band to the head.

The female is twenty-one inches in length, and thirty in extent; the crested head and part of the neck are of a dull sorrel colour; irides yellow; legs and bill red, upper parts dusky slate; wings black, greater coverts largely tipt with white, secondaries nearly all white; sides of the breast slightly dusky; whole lower parts pure white; the tail is of a lighter slate than the back. The crest is much shorter than in the male, and sometimes there is a slight tinge of ferruginous on the breast.

The windpipe of the male of this species is very curious, and differs something from that of the Goosander. About two in-

ches from the mouth it swells out to four times its common diameter, continuing of that size for about an inch and a half. This swelling is capable of being shortened or extended; it then continues of its first diameter for two inches or more, when it becomes flattish, and almost transparent for other two inches; it then swells into a bony labyrinth of more than two inches in length by one and a half in width, over the hollow sides of which is spread a yellowish skin like parchment. The left side of this, fronting the back of the bird, is a hard bone. The divarications come out very regularly from this at the lower end, and enter the lungs.

The intention of Nature in this extraordinary structure is probably to enable the bird to take down a supply of air to support respiration while diving; yet why should the female, who takes the same submarine excursions as the male, be entirely destitute of this apparatus?

SPECIES 3. *MERGUS ALBELLUS.*

THE SMEW, OR WHITE NUN.

[Plate LXXI.—Fig. 4.]

Le petit Harle huppe, ou la Piette, Briss. vi, *p.* 243. 3. *pl.* 24. *fig.* 1. —Buff. viii, *p.* 275. *pl.* 24.—*Pl. Enl.* 449, *male* 450, *female.* —Bewick, ii, *p.* 238.—Lath. *Syn.* iii, *p* 428.—*Arct. Zool. No.* 468.

This is another of those Mergansers commonly known in this country by the appellation of Fishermen, Fisher Ducks, or Divers. The present species is much more common on the coasts of New England than farther to the south. On the shores of New Jersey it is very seldom met with. It is an admirable diver, and can continue for a long time under water. Its food is small fry, shell fish, shrimps, &c. In England, as with us, the Smew is seen only during winter; it is also found in France, in some parts of which it is called *la Piette*, as in parts of England it is named the Magpie Diver. Its breeding place is doubtless in the Arctic regions, as it frequents Iceland; and has been observed to migrate with other Mergansers and several kinds of Ducks up the river Wolga in February.*

The Smew, or White Nun is nineteen inches in length, and two feet three inches in extent; bill black, formed very much like that of the Red-breasted M., but not so strongly toothed; irides dark; head crested; crown white, hind head black, round the area of the eye a large oval space of black; whole neck, breast, and belly white, marked on the upper and lower part of the breast with a curving line of black; back black; scapulars white, crossed with several faint dusky bars; shoulder of the wing and primaries black, secondaries and greater coverts black broadly

* Dec. Russ. ii, p. 145.

tipt with white; across the lesser coverts a large band of white; sides and flanks crossed with waving lines; tail dark ash; legs and feet pale bluish slate.

The female is considerably less than the male; the bill a dark lead colour; crest of the same peculiar form as that of the male, but less, and of a reddish brown; marked round the area of the eyes with dusky; cheeks, fore part of the neck, and belly white; round the middle of the neck a collar of pale brown; breast and shoulders dull brown and whitish intermixed; wings and back marked like those of the male; but of a deep brownish ash in those parts which in him are black; legs and feet pale blue. The young birds, as in the other three species, strongly resemble the female during the first and part of the second year. As these changes of colour, from the garb of the female to that of the male, take place in the remote regions of the north, we have not the opportunity of detecting them in their gradual progress to full plumage. Hence, as both males and females have been found in the same dress, some writers have considered them as a separate species from the Smew, and have given to them the title of the Red-headed Smew.

In the ponds of New England, and some of the Lakes in the state of New York, where the Smew is frequently observed, these red-headed kind are often found in company, and more numerous than the other, for very obvious reasons, and bear, in the markings, though not in the colours, of their plumage, evident proof of their being the same species, but younger birds or females. The male, like the Muscovy Drake and many others, when arrived at his full size is nearly one-third heavier than the female, and this disproportion of weight, and difference of colour, in the full grown males and females are characteristic of the whole genus.

SPECIES 4. *MERGUS CUCULLATUS.*

HOODED MERGANSER.

[Plate LXIX.—Fig. 1.]

L'Harle hupe de Virginie, Briss. vi, *p.* 258. 8.—*Pl. Enl.* 935, *male*, 936 *female.*—*L'Harle couronne*, Buff. viii, *p.* 280.—*Round crested Duck.* Edw. *pl*, 360.—Catesb. i, *pl.* 94.—*Arct. Zool. No.* 467.—Lath. *Syn.* 10. *p.* 426.—Peale's *Museum*, *No.* 2930.

This species on the seacoast is usually called the *Hairy head.* They are more common however along our lakes and fresh water rivers than near the sea; tracing up creeks, and visiting mill ponds, diving perpetually for their food. In the creeks and rivers of the southern states they are very frequently seen during the winter. Like the *Red breasted* they are migratory, the manners, food, and places of resort of both being very much alike.

The Hooded Merganser is eighteen inches in length, and two feet in extent; bill blackish red, narrow, thickly toothed, and furnished with a projecting nail at the extremity; the head is ornamented with a large circular crest, which the bird has the faculty of raising or depressing at pleasure; the fore part of this, as far as the eye, is black, thence to the hind head white and elegantly tipt with black; it is composed of two separate rows of feathers, radiating from each side of the head, and which may be easily divided by the hand; irides golden; eye very small; neck black, which spreads to and over the back; part of the lesser wing coverts very pale ash, under which the greater coverts and secondaries form four alternate bars of black and white, tertials long, black, and streaked down the middle with

white; the black on the back curves handsomely round in two points on the breast, which, with the whole lower parts are pure white; sides under the wings and flanks reddish brown, beautifully crossed with parallel lines of black; tail pointed, consisting of twenty feathers of a sooty brown; legs and feet flesh coloured; claws large and stout. The windpipe has a small labyrinth.

The female is rather less, the crest smaller and of a light rust or dull ferruginous colour, entirely destitue of the white; the upper half of the neck a dull drab, with semicircles of lighter, the white on the wings is the same as in the male; but the tertials are shorter and have less white; the back is blackish brown; the rest of the plumage corresponds very nearly with the male.

This species is peculiar to America; is said to arrive at Hudson's Bay about the end of May; builds close to the lakes; the nest is composed of grass lined with feathers from the breast; is said to lay six white eggs. The young are yellow, and fit to fly in July.*

* Hutchins, as quoted by Latham.

GENUS 97. ANAS. DUCK.

SPECIES 1. *ANAS CANADENSIS.*

CANADA GOOSE.

[Plate LXVII.—Fig. 4.]

L'Oye sauvage de Canada, Briss. vi, *p.* 272, 4, *pl.* 26.—*L'Oie a cravate*, Buff. ix, *p.* 82.—Ewd. *pl.* 151.—*Arct. Zool. No.* 471.—Catesby, i, *pl.* 92.—Lath. *Syn.* iii, *p.* 450.—Peale's *Museum*, *No.* 2704.*

This is the common Wild Goose of the United States, universally known over the whole country; whose regular periodical migrations are the sure signals of returning spring, or approaching winter. The tracts of their vast migratory journies are not confined to the seacoast or its vicinity. In their aerial voyages to and from the north, these winged pilgrims pass over the interior on both sides of the mountains, as far west, at least, as the Osage river, and I have never yet visited any quarter of the country where the inhabitants are not familiarly acquainted with the regular passing and repassing of the Wild Geese. The general opinion here is that they are on their way to the *lakes* to breed; but the inhabitants on the confines of the great lakes that separate us from Canada, are equally ignorant with ourselves of the particular breeding places of those birds. *There* their journey north is but commencing, and how far it extends it is impossible for us at present to ascertain, from our little acquaintance with these frozen regions. They were seen by Hearne in large flocks within the arctic circle, and were then pursuing their way still farther north. Captain Phipps speaks

* *Anas Canadensis*, Gmel. *Syst.* i, p. 514.—*Pl. Enl.* 346.—*Ind. Orn.* p. 838, No. 17.

of seeing Wild Geese feeding at the water's edge, on the dreary coazt of Spitzbergen, in lat. 80° 27'. It is highly probable that they extend their migrations under the very pole itself, amid the silent desolation of unknown countries shut out ever since creation from the prying eye of man by everlasting and insuperable barriers of ice. That such places abound with their suitable food we cannot for a moment doubt; while the absence of their great destroyer man, and the splendours of a perpetual day, may render such regions the most suitable for their purpose.

Having fulfilled the great law of nature, the approaching rigours of that dreary climate oblige these vast congregated flocks to steer for the more genial regions of the south. And no sooner do they arrive at those countries of the earth inhabited by man, than carnage and slaughter is commenced on their ranks. The English at Hudson's Bay, says Pennant, depend greatly on geese, and in favourable years kill three or four thousand, and barrel them up for use. They send out their servants as well as Indians to shoot these birds on their passage. It is in vain to pursue them; they therefore form a row of huts, made of boughs, at musquet-shot distance from each other, and place them in a line across the vast marshes of the country. Each stand, or *hovel*, as they are called, is occupied by only a single person. These attend the flight of the birds, and on their approach mimic their cackle so well, that the Geese will answer and wheel and come nearer the stand. The sportsman keeps motionless, and on his knees with his gun cocked the whole time, and never fires till he has seen the eyes of the Geese. He fires as they are going from him, then picks up another gun that lies by him and discharges that. The Geese which he has killed he sets upon sticks, as if alive, to decoy others; he also makes artificial birds for the same purpose. In a good day, for they fly in very uncertain and unequal numbers, a single Indian will kill two hundred. Notwithstanding every species of Goose has a different call, yet the Indians are admirable in their imitations of every one. The autumnal flight lasts from the mid-

dle of August to the middle of October; those which are taken in this season, when the frosts begin, are preserved in their feathers, and left to be frozen for the fresh provisions of the winter stock. The feathers constitute an article of commerce, and are sent to England.

The vernal flight of the Geese lasts from the middle of April until the middle of May. Their first appearance coincides with the thawing of the swamps, when they are very lean. Their arrival from the south is impatiently attended; it is the harbinger of the spring, and the month named by the Indians the Goose moon. They appear usually at their settlements about St. George's day, O. S. and fly northward to nestle in security. They prefer islands to the continent, as farther from the haunts of man.*

After such prodigious havoc as thus appears to be made among these birds, and their running the gauntlet, if I may so speak, for many hundreds of miles through such destructive fires, no wonder they should have become more scarce, as well as shy, by the time they reach the shores of the United States.

Their first arrival on the coast of New Jersey is early in October, and their first numerous appearance is the sure prognostic of severe weather. Those which continue all winter frequent the shallow bays and marsh islands; their principal food being the broad tender green leaves of a marine plant which grows on stones and shells, and is usually called sea-cabbage; and also the roots of the sedge, which they are frequently observed in the act of tearing up. Every few days they make an excursion to the inlets on the beach for gravel. They cross, indiscriminately, over land or water, generally taking the nearest course to their object; differing in this respect from the Brant, which will often go a great way round by water rather than cross over the land. They swim well; and if wing-broken, dive and go a great way under water, causing the sportsman a great deal of fatigue before he can kill them. Except in very calm weather they rarely sleep on the water, but roost all night in the marsh-

* Arct. Zool.

es. When the shallow bays are frozen, they seek the mouths of inlets near the sea, occasionally visiting the air holes in the ice; but these bays are seldom so completely frozen as to prevent them from feeding on the bars.

The flight of the Wild Geese is heavy and laborious, generally in a stright line, or in two lines approximating to a point, thus, ⊳ ; in both cases the van is led by an old gander, who every now and then pipes his well known *honk*, as if to ask how they come on, and the honk of "all's well" is generally returned by some of the party. Their course is in a straight line, with the exception of the undulations of their flight. When bewildered in foggy weather, they appear sometimes to be in great distress, flying about in an irregular manner, and for a considerable time over the same quarter, making a great clamour. On these occasions should they approach the earth, and alight, which they sometimes do, to rest and recollect themselves, the only hospitality they meet with is death and destruction from a whole neighbourhood already in arms for their ruin.

Wounded Geese have, in numerous instances, been completely domesticated, and readily pair with the tame Gray Geese. The offspring are said to be larger than either; but the characteristic marks of the Wild Goose still predominate. The gunners on the seashore have long been in the practice of taming the wounded of both sexes, and have sometimes succeeded in getting them to pair and produce. The female always seeks out the most solitary place for her nest, not far from the water. On the approach of every spring, however, these birds discover symptoms of great uneasiness, frequently looking up into the air, and attempting to go off. Some whose wings have been closely cut, have travelled on foot in a northern direction, and have been found at the distance of several miles from home. They hail every flock that passes overhead, and the salute is sure to be returned by the voyagers, who are only prevented from alighting among them by the presence and habitations of man. The gunners take one or two of these domesticated Geese

with them to those parts of the marshes over which the wild ones are accustomed to fly; and concealing themselves within gun shot, wait for a flight, which is no sooner perceived by the decoy Geese, than they begin calling aloud, until the whole flock approaches so near as to give them an opportunity of discharging two and sometimes three loaded musquets among it, by which great havoc is made.

The Wild Goose, when in good order, weighs from ten to twelve, and sometimes fourteen pounds. They are sold in the Philadelphia markets at from seventy-five cents to one dollar each; and are estimated to yield half a pound of feathers a piece, which produces twenty-five or thirty cents more.

The Canada Goose is now domesticated in numerous quarters of the country, and is remarked for being extremely watchful, and more sensible of approaching changes in the atmosphere than the common Gray Goose. In England, France, and Germany, they have also been long ago domesticated. Buffon, in his account of this bird, observes, "within these few years many hundreds inhabited the great canal at Versailles, where they breed familiarly with the Swans; they were oftener on the grassy margins than in the water;" and adds, "there is at present a great number of them on the magnificent pools that decorate the charming gardens of Chantilly." Thus has America already added to the stock of domestic fowls two species, the Turkey and the Canada Goose, superior to most in size, and inferior to none in usefulness; for it is acknowledged by an English naturalist of good observation, that this last species "is as familiar, breeds as freely, and is in every respect as valuable as the common Goose."*

The strong disposition of the wounded Wild Geese to migrate to the north in spring, has been already taken notice of. Instances have occurred where, their wounds having healed, they have actually succeeded in mounting into the higher regions of the air, and joined a passing party to the north; and, extraor-

* Bewick, v. ii, p. 255.

dinary as it may appear, I am well assured by the testimony of several respectable persons, who have been eye-witnesses to the fact, that they have been also known to return again in the succeeding autumn to their former habitation. These accounts are strongly corroborated by a letter which I some time ago received from an obliging correspondent at New York; which I shall here give at large, permitting him to tell his story in his own way, and conclude my history of this species.

"Mr. Platt, a respectable farmer on Long Island, being out shooting in one of the bays which, in that part of the country, abound with water-fowl, wounded a Wild Goose. Being wing-tipped, and unable to fly, he caught it, and brought it home alive. It proved to be a female; and turning it into his yard, with a flock of tame Geese, it soon became quite tame and familiar, and in a little time its wounded wing entirely healed. In the following spring, when the Wild Geese migrate to the northward, a flock passed over Mr. Platt's barn yard; and just at that moment their leader happening to sound his bugle-note, our Goose, in whom its new habits and enjoyments had not quite extinguished the love of liberty, and remembering the well known sound, spread its wings, mounted into the air, joined the travellers, and soon disappeared. In the succeeding autumn the Wild Geese (as was usual) returned from the northward in great numbers, to pass the winter in our bays and rivers. Mr. Platt happened to be standing in his yard when a flock passed directly over his barn. At that instant, he observed three Geese detach themselves from the rest, and after wheeling round several times, alight in the middle of the yard. Imagine his surprise and pleasure, when by certain well remembered signs, he recognized in one of the three his long-lost fugitive. It was she indeed! She had travelled many hundred miles to the lakes; had there hatched and reared her offspring; and had now returned with her little family, to share with them the sweets of civilized life.

"The truth of the foregoing relation can be attested by many respectable people, to whom Mr. Platt has related the circum-

stances as above detailed. The birds were all living, and in his possession, about a year ago, and had shown no disposition whatever to leave him."

The length of this species is three feet, extent five feet two inches; the bill is black; irides dark hazel; upper half of the neck black, marked on the chin and lower part of the head with a large patch of white, its distinguishing character; lower part of the neck before white; back and wing-coverts brown, each feather tipt with whitish; rump and tail black; tail coverts and vent white; primaries black, reaching to the extremity of the tail; sides pale ashy brown; legs and feet blackish ash.

The male and female are exactly alike in plumage.

SPECIES 2. ANAS HYPERBOREA.

SNOW GOOSE.

[Plate LXVIII.—Fig. 5, *Male.*]

L'Oye de Neige, Briss. vi, *p.* 288. 10.—*White Brant*, Lawson's *Carolina*, *p.* 157.—*Arct. Zool. No.* 477.—*Phil. Trans.* 62, *p.* 413.—Lath. *Syn.* iii, *p.* 445.—Peale's *Museum*, *No.* 2635.*

This bird is particularly deserving of the further investigation of naturalists; for, if I do not greatly mistake, English writers have, from the various appearances which this species assumes in its progress to perfect plumage, formed no less than four different kinds, which they describe as so many distinct species, viz. the *Snow Goose*, the *White fronted* or *Laughing Goose*, the *Bean Goose*, and the *Blue winged Goose;* all of which, I have little doubt, will hereafter be found to be nothing more than perfect and imperfect individuals, male and female, of the Snow Goose, now before us.†

This species, called on the seacoast the Red Goose, arrives in the river Delaware from the north, early in November, sometimes in considerable flocks, and is extremely noisy, their notes being shriller and more squeaking than those of the Canada, or Common Wild Goose. On their first arrival they make but a short stay, proceeding, as the depth of winter approaches, farther to the south; but from the middle of February until the breaking up of the ice in March, they are frequently numerous along both shores of the Delaware, about and below Reedy Island, particu-

* *Anas hyperborea*, Gmel. *Syst.* i, *p.* 504, *No.* 54.—*Ind. Orn. p.* 837, *No.* 14.—Temm. *Man. d'Orn. p.* 816.

† This conjecture of our author is partly erroneous. The Snow Goose and the Blue-winged Goose are synonymous; but the other two named are distinct species, the characters of which are well defined by late ornithologists.

larly near Old Duck Creek, in the state of Delaware. They feed on the roots of the reeds there, tearing them up from the marshes like hogs. Their flesh, like most others of their tribe that feed on vegetables, is excellent.

The Snow Goose is two feet eight inches in length, and five feet in extent; the bill is three inches in length, remarkably thick at the base, and rising high in the forehead; but becomes small and compressed at the extremity, where each mandible is furnished with a whitish rounding nail; the colour of the bill is a purplish carmine; the edges of the two mandibles separate from each other in a singular manner for their whole length, and this gibbosity is occupied by dentated rows resembling teeth, these and the parts adjoining being of a blackish colour; the whole plumage is of a snowy whiteness, with the exception, first of the fore part of the head all round as far as the eyes, which is of a yellowish rust colour intermixed with white, and second, the nine exterior quill feathers, which are black shafted with white, and white at the root, the coverts of these last, and also the bastard wing, is sometimes of a pale ash colour; the legs and feet of the same purplish carmine as the bill; iris dark hazel; the tail is rounded, and consists of sixteen feathers; that and the wings when shut, nearly of a length.

The bill of this bird is singularly curious; the edges of the upper and lower gibbosities have each twenty-three indentations, or strong teeth on each side; the inside or concavity of the upper mandible has also seven lateral rows of strong projecting teeth; and the tongue, which is horny at the extremity, is armed on each side with thirteen long and sharp bony teeth, placed like those of a saw with their points directed backwards; the tongue, turned up and viewed on its lower side, looks very much like a human finger with its nail. This conformation of the mandibles, exposing two rows of strong teeth, has probably given rise to the epithet *Laughing*, bestowed on one of its varieties; though it might with as much propriety have been named the Grinning Goose.

The specimen from which the above figure and description

were taken, was shot on the Delaware, below Philadelphia, on the fifteenth of February; and on dissection proved to be a male; the windpipe had no labyrinth, but for an inch or two before its divarication into the lungs, was inflexible, not extensile like the rest, and rather wider in diameter. The gullet had an expansion before entering the stomach; which last was remarkably strong, the two great grinding muscles being nearly five inches in diameter. The stomach was filled with fragments of the roots of reeds, and fine sand. The intestines measured eight feet in length, and were not remarkably thick. The liver was small. For the young and female of this species, see Plate lxix, fig. 5.

Latham observes that this species is very numerous at Hudson's Bay; that they visit Severn river in May, and stay a fortnight, but go farther north to breed; they return to Severn Fort the beginning of September, and stay till the middle of October, when they depart for the south, and are observed to be attended by their young in flocks innumerable. They seem to occupy also the Western side of America, as they were seen at Aoonalashka* as well as at Kamtschatka.† White Brant with black tips to their wings, were also shot by captains Lewis and Clark's exploring party, near the mouth of the Columbia river, which were probably the same as the present species.‡ Mr. Pennant says "they are taken by the Siberians in nets, under which they are decoyed by a person covered with a white skin, and crawling on all-fours; when others driving them, these *stupid* birds mistaking him for their leader, follow him, when they are entangled in the nets, or led into a kind of pound made for the purpose!" We might here with propriety add—*This wants confirmation.*

* Ellis's Narr. † Hist. Kamtsch. ‡ Gass's Journal, *p.* 161.

ANAS HYPERBOREA.

YOUNG OF THE SNOW GOOSE.

[Plate LXIX.—Fig. 5. *Female.*]

Bean Goose? Lath. *Syn.* III, *p.* 464.—*White fronted Goose?* Ibid. III, *p.* 463.—*Arct. Zool. No.* 474. *Blue winged Goose?* Lath. *Syn.* III, *p.* 469.—Peale's *Museum, No.* 2636,*

The full plumaged perfect male bird of this species has already been figured in the preceding plate, and I now hazard a conjecture, founded on the best examination I could make of the young bird here figured, comparing it with the descriptions of the different accounts above referred to, that the whole of them have been taken from the various individuals of the present, in a greater or lesser degree of approach to its true and perfect colours.

These birds pass along our coasts, and settle in our rivers, every autumn; among thirty or forty there are seldom more than six or eight pure white, or old birds. The rest vary so much that no two are exactly alike; yet all bear the most evident marks in the particular structure of their bills, &c. of being the same identical species. A gradual change so great, as from a bird of this colour to one of pure white, must necessarily produce a number of varieties, or differences in the appearance of the plumage, but the form of the bill and legs remain the same, and any peculiarity in either is the surest mean we have to detect a species under all its various appearances. It is therefore to be regretted, that the authors above referred to in the synonyms, have paid so little attention to the singular confor-

**Anas cærulescens*, Gmel. *Syst.* I, p. 513, No. 12.—*Ind. Orn. p.* 836, No. 13. *Blue winged Goose*, Lath. *Sup.* II, p. 346, No. 8.—*L'Oye sauvage de la Baye de Hudson*, Briss. VI, p. 275, No. 5.—*L'Oye des Esquimaux*, Buff. IX, p. 80.

mation of the bill; for even in their description of the Snow Goose, neither that nor the internal peculiarities, are at all mentioned.

The length of the bird represented in our plate, was twenty-eight inches, extent four feet eight inches; bill gibbous at the sides both above and below, exposing the teeth of the upper and lower mandibles, and furnished with a nail at the tip on both; the whole being of a light reddish purple or pale lake, except the gibbosity, which is black, and the two nails, which are of a pale light blue; nostril pervious, an oblong slit, placed nearly in the middle of the upper mandible; irides dark brown; whole head and half of the neck white; rest of the neck and breast, as well as upper part of the back, of a purplish brown, darkest where it joins the white; all the feathers being finely tipt with pale brown; whole wing coverts very pale ash, or light lead colour, primaries and secondaries black; tertials long, tapering, centred with black, edged with light blue, and usually fall over the wing; scapulars cinereous brown; lower parts of the back and rump of the same light ash as the wing coverts; tail rounded, blackish, consisting of sixteen feathers edged and tipt broadly with white; tail coverts white; belly and vent whitish, intermixed with cinereous; feet and legs of the same lake colour as the bill.

This specimen was a female; the tongue was thick and fleshy, armed on each side with thirteen strong bony teeth, exactly similar in appearance as well as in number, to those on the tongue of the Snow Goose; the inner concavity of the upper mandible was also studded with rows of teeth. The stomach was extremely muscular, filled with some vegetable matter, and clear gravel.

With this another was shot, differing considerably in its markings, having little or no white on the head, and being smaller, its general colour dark brown intermixed with pale ash, and darker below, but evidently of the same species with the other.

SPECIES 3. *ANAS BERNICLA.*

THE BRANT.

[Plate LXXII.—Fig. 1.]

Le Cravant, Briss. vi, *p.* 304. 16. *pl.* 31.—Buff. ix, *p.* 87.—Bewick, ii, *p.* 277.—Lath. *Syn.* iii, *p.* 467.—*Arct. Zool. No.* 478.—Peale's *Museum*, *No.* 2704.*

The Brant, or as it is usually written *Brent*, is a bird well known on both continents, and celebrated in former times throughout Europe for the singularity of its origin, and the strange transformations it was supposed to undergo previous to its complete organization. Its first appearance was said to be in the form of a barnacle shell adhering to old water-soaked logs, trees, or other pieces of wood taken from the sea. Of this *Goose-bearing tree* Gerard, in his Herbal, published in 1597, has given a formal account, and seems to have reserved it for the conclusion of his work as being the most wonderful of all he had to describe. The honest naturalist however, though his belief was fixed, acknowledges that his own personal information was derived from certain shells, which adhered to a rotten tree that he dragged out of the sea between Dover and Romney in England; in some of which he found "living things without forme or shape; in others which were nearer come to ripeness, living things that were very naked, in shape like a birde; in others the birds covered with soft downe, the shell half open and the birde readie to fall out, which no doubt were the foules called Barnakles."† Ridiculous and chimerical as this notion was, it had many advocates, and was at that time as generally believed, and with about as much reason too, as the present

* *Anas Bernicla*, Gmel. *Syst.* i, *p.* 513, *No.* 13.—*Ind. Orn. p.* 844, *No.* 32.—*Le Cravant*, Buff. *Pl. Enl.* 342. *Oie Cravant*, Temm. *Man. d'Orn. p.* 824.

† See Gerard's Herbal, Art. Goose-bearing Tree.

opinion of the annual submersion of swallows, so tenaciously insisted on by some of our philosophers, and which, like the former absurdity, will in its turn disappear before the penetrating radiance and calm investigation of truth.

The Brant and Barnacle Goose, though generally reckoned two different species, I consider to be the same.* Among those large flocks that arrive on our coasts about the beginning of October, individuals frequently occur corresponding in their markings with that called the Bernacle of Europe, that is, in having the upper parts lighter, and the front, cheeks, and chin whitish. These appear evidently a variety of the Brant, probably young birds; what strengthens this last opinion is the fact that none of them are found so marked on their return northward in the spring.

The Brant is expected at Egg Harbour on the coast of New Jersey about the first of October, and has been sometimes seen as early as the twentieth of September. The first flocks generally remain in the bay a few days, and then pass on to the south. On recommencing their journey, they collect in one large body, and making an extensive spiral course, some miles in diameter, rise to a great height in the air, and then steer for the sea, over which they uniformly travel; often making wide circuits to avoid passing over a projecting point of land. In these aerial routes they have been met with many leagues from shore, travelling the whole night. Their line of march very much resembles that of the Canada Goose, with this exception, that frequently three or four are crowded together in the front, as if striving for precedency. Flocks continue to arrive from the north, and many remain in the bay till December, or until the weather becomes very severe, when these also move off south-

* The ridiculous account of the origin of the Barnacle Goose, extracted from the Herbal of Gerard is retained for the amusement of the reader; but it is necessary to state, that the opinion of our author, with respect to the identity of the Brant and Barnacle is erroneous, these birds forming distinct species.

wardly. During their stay they feed on the bars at low water, seldom or never in the marshes; their principal food being a remarkably long and broad-leaved marine plant, of a bright green colour, which adheres to stones, and is called by the country people sea cabbage; the leaves of this are sometimes eight or ten inches broad by two or three feet in length; they also eat small shell fish. They never dive, but wade about feeding at low water. During the time of high water they float in the bay in long lines, particularly in calm weather. Their voice is hoarse and honking, and when some hundreds are screaming together, reminds one of a pack of hounds in full cry. They often quarrel among themselves, and with the Ducks, driving the latter off their feeding ground. Though it never dives in search of food, yet when wing broken the Brant will go one hundred yards at a stretch under water; and is considered, in such circumstances, one of the most difficult birds to kill. About the fifteenth or twentieth of May they re-appear on their way north; but seldom stop long, unless driven in by tempestuous weather.

The breeding place of the Brant is supposed to be very far to the north. They are common at Hudson's Bay, very numerous in winter on the coasts of Holland and Ireland; are called in Shetland Harra geese, from their frequenting the sound of that name; they also visit the coast of England. Buffon relates, that in the severe winters of 1740 and 1765, during the prevalence of a strong north wind, the Brant visited the coast of Picardy in France, in prodigious multitudes, and committed great depredations on the corn, tearing it up by the roots, trampling and devouring it; and notwithstanding the exertions of the inhabitants, who were constantly employed in destroying them, they continued in great force until a change of weather carried them off.

The Brant generally weighs about four pounds avoirdupois, and measures two feet in length, and three feet six inches in extent; the bill is about an inch and a half long, and black; the nostril large, placed nearly in its middle; head neck, and breast black, the neck marked with a spot of white, about two inches

below the eye; belly pale ash edged with white; from the thighs backwards white; back and wing coverts dusky brownish black, the plumage lightest at the tips; rump and middle of the tail coverts black, the rest of the tail coverts pure white, reaching nearly to the tip of the tail, the whole of which is black, but usually concealed by the white coverts; primaries and secondaries deep black; legs also black; irides dark hazel.

The only material difference observable between the plumage of the male and female, is, that in the latter the white spot on the neck is less, and more mottled with dusky. In young birds it is sometimes wanting, or occurs on the front, cheeks, and chin; and sometimes the upper part of the neck, only, is black,* but in full plumaged birds, of both sexes, the markings are very much alike.

The Brant is often seen in our markets for sale. Its flesh, though esteemed by many, tastes somewhat sedgy, or fishy.

* The figure of this bird given by Bewick, is in that state.

SPECIES 4. *ANAS CLYPEATA.*

SHOVELLER.

[Plate LXVII.—Fig. 7.]

Le Souchet, Briss. vi, *p.* 329. 6. *pl.* 32. *fig.* 1.—Buff. ix, 191.—*Pl. Enl.* 971.—*Arct. Zool. No.* 485.—Catesb. i, *pl.* 96, female.—Lath. *Syn.* iii, *p.* 509.—Peale's *Museum*, *No.* 2734.*

If we except the singularly formed and disproportionate size of the bill, there are few Ducks more beautiful, or more elegantly marked than this. The excellence of its flesh, which is uniformly juicy, tender, and well tasted, is another recommendation to which it is equally entitled. It occasionally visits the seacoast; but is more commonly found on our lakes and rivers, particularly along their muddy shores, where it spends great part of its time in searching for small worms, and the larvæ of insects, sifting the watery mud through the long and finely set teeth of its curious bill, which is admirably constructed for the purpose; being large, to receive a considerable quantity of matter, each mandible bordered with close-set, pectinated rows, exactly resembling those of a weaver's reed, which fitting into each other form a kind of sieve, capable of retaining very minute worms, seeds, or insects, which constitute the principal food of the bird.

The Shoveller visits us only in the winter, and is not known to breed in any part of the United States. It is a common bird

* We add the following Synonymes.—*Anas clypeata*, Gmel. *Syst.* i, p. 518, No. 19. *A. Mexicana*, *Id. p.* 519, *No.* 81?—*A. rubens*, *Id. No.* 82.—Lath. *Ind. Orn. p.* 856, *No.* 60; *p.* 857, *No.* 61, *No.* 62. *Gen. Syn.* iii, *p.* 511, *No.* 56; *p.* 512, *No.* 57. *Blue-wing shoveller*, Catesby, i, pl. 96, female.—*Br. Zool.* No. 280, No. 281.—*Le Souchet du Mexique*, Briss. vi, *p.* 337. *Le Canard Sauvage du Mexique*, *Id.* p. 327. No. 5.—*Canard Souchet*, Temm. *Man. d'Orn.* p. 842.—Bewick, ii, p. 310, 313. Peale's *Museum*, No. 2735, female.

of Europe, and, according to M. Baillon, the correspondent of Buffon, breeds yearly in the marshes in France. The female is said to make her nest on the ground, with withered grass, in the midst of the largest tufts of rushes or coarse herbage, in the most inaccessible part of the slaky marsh, and lays ten or twelve pale rust coloured eggs; the young, as soon as hatched, are conducted to the water by the parent birds. They are said to be at first very shapeless and ugly, for the bill is then as broad as the body, and seems too great a weight for the little bird to carry. Their plumage does not acquire its full colours until after the second moult.

The Blue winged Shoveller is twenty inches long, and two feet six inches in extent; the bill is brownish black, three inches in length, greatly widened near the extremity, closely pectinated on the sides, and furnished with a nail on the tip of each mandible; irides bright orange; tongue large and fleshy; the inside of the upper and outside of the lower mandible are grooved so as to receive distinctly the long separated reed-like teeth; there is also a gibbosity in the two mandibles, which do not meet at the sides, and this vacuity is occupied by the sifters just mentioned; head and upper half of the neck glossy, changeable green; rest of the neck and breast white, passing round and nearly meeting above; whole belly dark reddish chestnut; flanks a brownish yellow, pencilled transversely with black, between which and the vent, which is black, is a band of white; back blackish brown, exterior edges of the scapulars white; lesser wing coverts and some of the tertials a fine light sky-blue; beauty spot on the wing a changeable resplendent bronze green, bordered above by a band of white, and below with another of velvetty black; rest of the wing dusky, some of the tertials streaked down their middles with white; tail dusky, pointed, broadly edged with white; legs and feet reddish orange, hind toe not finned.

With the above another was shot, which differed in having the breast spotted with dusky, and the back with white; the green plumage of the head intermixed with gray, and the bel-

ly with circular touches of white; evidently a young male in its imperfect plumage.

The female has the crown of a dusky brown; rest of the head and neck yellowish white, thickly spotted with dark brown; these spots on the breast become larger, and crescent-shaped; back and scapulars dark brown, edged and centered with yellow ochre; belly slightly rufous, mixed with white; wing nearly as in the male.

On dissection the labyrinth in the windpipe of the male was found to be small; the trachea itself seven inches long; the intestines nine feet nine inches in length, and about the thickness of a crow quill.

SPECIES 5. *ANAS BOSCHAS.*

THE MALLARD.

[Plate LXX.—Fig. 7.]

LATH. *Syn.* III, *p.* 489.—BEWICK, II, *p.* 291.—*Le Canard Sauvage*, BRISS. VI, *p.* 318. 4.—BUFF. IX, *p.* 115. *pl.* 7, 8.—PEALE'S *Museum*, *No.* 2864.*

THE Mallard, or common Wild Drake, is so universally known as scarcely to require a description. It measures twenty-four inches in length, by three feet in extent, and weighs upwards of two pounds and a half;† the bill is greenish yellow; irides hazel; head and part of the neck deep glossy changeable green, ending in a narrow collar of white; the rest of the neck and breast are of a dark purplish chestnut; lesser wing coverts brown ash, greater crossed near the extremities with a band of white, and tipt with another of deep velvetty black; below this lies the speculum, or beauty spot, of a rich and splendid light purple, with green and violet reflexions, bounded on every side with black; quills pale brownish ash; back brown, skirted with paler; scapulars whitish, crossed with fine undulating lines of black; rump and tail coverts black glossed with green, tertials very broad and pointed at the ends; tail consisting of eighteen feathers, whitish, centred with brown ash, the four middle ones excepted, which are narrow, black glossed with violet, re-

* *Anas Boschas*, GMEL. *Syst.* I, *p.* 538, *No.* 40.—*Ind. Orn. p.* 850, *No.* 49.—*Arct. Zool. No.* 494.—*Br. Zool. No.* 279.—*Le canard Sauvage*, *Pl. Enl.* 776, male; 777, female.—PEALE'S *Museum*, No. 2865, female.

† Mr. Ord shot a male on the Delaware, in the month of April, which weighed three pounds five ounces; and he saw them in Florida, in the winter, when they are fatter than in the spring, of greater weight. In the month of March he shot two females, in East Florida, weighing two pounds each.

markably concave, and curled upwards to a complete circle; belly and sides a fine gray, crossed by an infinite number of fine waving lines, stronger and more deeply marked as they approach the vent; legs and feet orange red.

The female has the plumage of the upper parts dark brown broadly bordered with brownish yellow; and the lower parts yellow ochre spotted and streaked with deep brown; the chin and throat for about two inches, plain yellowish white; wings, bill, and legs, nearly as in the male.

The windpipe of the male has a bony labyrinth, or bladder-like knob puffing out from the left side. The intestines measure six feet, and are as wide as those of the Canvas-back. The windpipe is of uniform diameter until it enters the labyrinth.

This is the original stock of the common domesticated Duck, reclaimed, time immemorial, from a state of nature, and now become so serviceable to man. In many individuals the general garb of the tame Drake seems to have undergone little or no alteration; but the stamp of slavery is strongly imprinted in his dull indifferent eye, and grovelling gait; while the lofty look, long tapering neck, and sprightly action of the former, bespeak his native spirit and independence.

The common Wild Duck is found in every fresh water lake and river of the United States in winter; but seldom frequents the seashores or salt marshes. Their summer residence is the north, the great nursery of this numerous genus. Instances have been known of some solitary pairs breeding here in autumn. In England these instances are more common. The nest is usually placed in the most solitary recesses of the marsh, or bog, amidst coarse grass, reeds, and rushes, and generally contains from twelve to sixteen eggs of a dull greenish white. The young are led about by the mother in the same manner as those of the tame duck; but with a superior caution, a cunning and watchful vigilance peculiar to her situation. The male attaches himself to one female, as among other birds in their native state, and is the guardian and protector of her and her feeble brood. The Mallard is numerous in the rice fields of the

southern states during winter, many of the fields being covered with a few inches of water, and the scattered grains of the former harvest lying in abundance, the ducks swim about and feed at pleasure.

The flesh of the common Wild Duck is in general and high estimation; and the ingenuity of man, in every country where it frequents, has been employed in inventing stratagems to overreach these wary birds, and procure a delicacy for the table. To enumerate all these various contrivances would far exceed our limits; a few, however, of the most simple and effective may be mentioned.

In some ponds frequented by these birds, five or six wooden figures, cut and painted so as to represent ducks, and sunk, by pieces of lead nailed on their bottoms, so as to float at the usual depth on the surface, are anchored in a favourable position for being raked from a concealment of brush, &c. on shore. The appearance of these usually attracts passing flocks, which alight, and are shot down. Sometimes eight or ten of these painted wooden ducks are fixed on a frame in various swimming postures, and secured to the bow of the gunner's skiff, projecting before it in such a manner that the weight of the frame sinks the figures to their proper depth; the skiff is then drest with sedge or coarse grass in an artful manner, as low as the water's edge; and under cover of this, which appears like a party of ducks swimming by a small island, the gunner floats down sometimes to the very skirts of a whole congregated multitude, and pours in a destructive and repeated fire of shot among them. In winter, when detached pieces of ice are occasionally floating in the river, some of the gunners on the Delaware paint their whole skiff or canoe white, and laying themselves flat at the bottom, with their hand over the side silently managing a small paddle, direct it imperceptibly into or near a flock, before the Ducks have distinguished it from a floating mass of ice, and generally do great execution among them. A whole flock has sometimes been thus surprised asleep, with their heads under their wings. On land, another stratagem is sometimes practised with

great success. A large tight hogshead is sunk in the flat marsh, or mud, near the place where Ducks are accustomed to feed at low water, and where otherwise there is no shelter; the edges and top are artfully concealed with tufts of long coarse grass and reeds, or sedge. From within this the gunner, unseen and unsuspected, watches his collecting prey, and when a sufficient number offers, sweeps them down with great effect. The mode of catching Wild Ducks, as practised in India,* China,† the island of Ceylon, and some parts of South America,‡ has been often described, and seems, if reliance may be placed on those accounts, only practicable in water of a certain depth. The sportsman covering his head with a hollow wooden vessel or calabash, pierced with holes to see through, wades into the water, keeping his head only above, and thus disguised, moves in among the flock, which take the appearance to be a mere floating calabash, while suddenly pulling them under by the legs, he fastens them to his girdle, and thus takes as many as he can conveniently stow away, without in the least alarming the rest. They are also taken with snares made of horse hair, or with hooks baited with small pieces of sheep's lights, which floating on the surface, are swallowed by the ducks, and with them the hooks. They are also approached under cover of a stalking horse, or a figure formed of thin boards or other proper materials, and painted so as to represent a horse or ox. But all these methods require much watching, toil, and fatigue, and their success is but trifling when compared with that of the *Decoy* now used both in France and England,‖ which, from its superiority over every other mode, is well deserving the attention of persons of this country residing in the neighbourhood of extensive marshes frequented by Wild Ducks; as, by this method, Mallard and other kinds may be taken by thousands at a time. The following circumstantial account of these decoys, and the manner of taking Wild

* Naval Chron. vol. ii, p. 473. † Du Halde, Hist. China, vol. ii, p. 142.
‡ Ulloa's Voy. i, p. 53. ‖ Particularly in Picardy, in the former country, and Lincolnshire in the latter.

Ducks in them in England, is extracted from Bewick's History of British Birds, vol. ii, p. 294.

"In the lakes where they resort," says the correspondent of that ingenious author, "the most favourite haunts of the fowl are observed: then in the most sequestered part of this haunt, they cut a ditch about four yards across at the entrance, and about fifty or sixty yards in length, decreasing gradually in width from the entrance to the farther end, which is not more than two feet wide. It is of a circular form, but not bending much for the first ten yards. The banks of the lake, for about ten yards on each side of this ditch (or pipe, as it is called) are kept clear from reeds, coarse herbage, &c. in order that the fowl may get on them to sit and dress themselves. Across this ditch, poles on each side, close to the edge of the ditch, are driven into the ground, and the tops bent to each other and tied fast. These poles at the entrance form an arch, from the top of which to the water is about ten feet. This arch is made to decrease in height, as the ditch decreases in width, till the farther end is not more than eighteen inches in height. The poles are placed about six feet from each other, and connected together by poles laid lengthwise across the arch and tied together. Over them a net with meshes sufficiently small to prevent the fowl getting through, is thrown across, and made fast to a reed fence at the entrance, and nine or ten yards up the ditch, and afterwards strongly pegged to the ground. At the farther end of the pipe, a tunnel net, as it is called, is fixed, about four yards in length, of a round form, and kept open by a number of hoops about eighteen inches in diameter, placed at a small distance from each other, to keep it distended. Supposing the circular bend of the pipe to be to the right, when you stand with your back to the lake, on the left hand side a number of reed fences are constructed, called *shootings*, for the purpose of screening from sight the *decoy-man*, and in such a manner, that the fowl in the decoy may not be alarmed, while he is driving those in the pipe: these shootings are about four yards in length, and about six feet high, and are ten in number. They

are placed in the following manner—



From the end of the last shooting, a person cannot see the lake, owing to the bend of the pipe: there is then no farther occasion for shelter. Were it not for those shootings, the fowl that remain about the mouth of the pipe would be alarmed, if the person driving the fowl already under the net should be exposed, and would become so shy as to forsake the place entirely. The first thing the decoy-man does when he approaches the pipe, is to take a piece of lighted turf or peat and hold it near his mouth, to prevent the fowl smelling him. He is attended by a dog taught for the purpose of assisting him: he walks very silently about half way up the shootings, where a small piece of wood is thrust through the reed fence, which makes an aperture just sufficient to see if any fowl are in; if not, he walks forward to see if any are about the mouth of the pipe. If there are, he stops and makes a motion to his dog, and gives him a piece of cheese or something to eat; upon receiving it he goes directly to a hole through the reed fence, (No. 1.) and the fowl immediately fly off the bank into the water; the dog returns along the bank between the reed fences and the pipe, and comes out to his master at the hole (No. 2.) The man now gives him another reward, and he repeats his round again, till the fowl are attracted by the motions of the dog, and follow him into the mouth of the pipe. This operation is called working them. The man now retreats farther back, working the dog at different holes till the fowl are sufficiently under the net: he now commands his dog to lay down still behind the fence, and goes forward to the end of the pipe next the lake, where he takes off his hat and gives it a wave between the shooting; all the fowl under the net can see him, but none that are in the lake can. The fowl that are in sight fly forward; and the man runs forward to the next shooting and waves his hat, and so on, driv-

ing them along till they come to the tunnel net, where they creep in: when they are all in, he gives the net a twist, so as to prevent their getting back: he then takes the net off from the end of the pipe with what fowl he may have caught, and takes them out one at a time, and dislocates their necks and hangs the net on again; and all is ready for working again.

"In this manner five or six dozen have been taken at one drift. When the wind blows directly in or out of the pipe, the fowl seldom work well, especially when it blows in. If many pipes are made in a lake, they should be so constructed as to suit different winds.

"Duck and Mallard are taken from August to June. Teal or Wigeon, from October to March. Becks, Smee, Golden Eyes, Arps, Cricks, and Pintails or Sea Pheasants, in March and April.

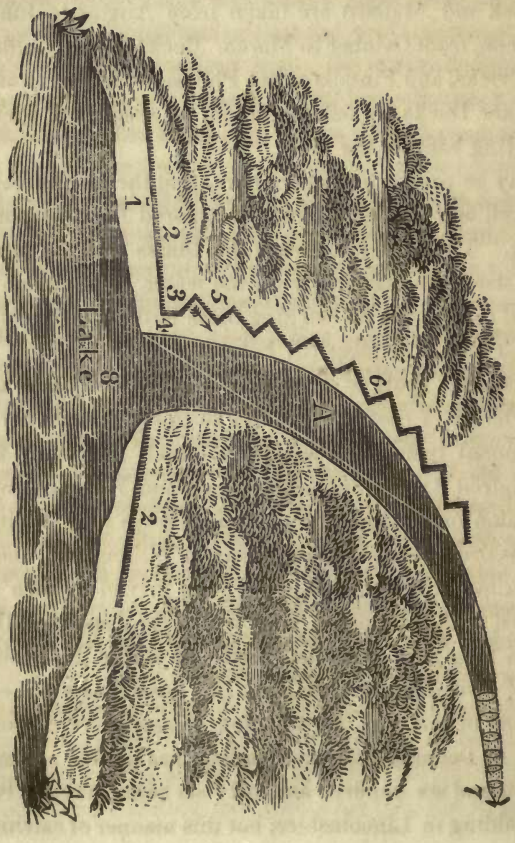
"Poker Ducks are seldom taken, on account of their diving and getting back in the pipe.

It may be proper to observe here, that the Ducks feed during the night, and that all is ready prepared for this sport in the evening. The better to entice the Ducks into the pipe, hemp seed is strewed occasionally on the water. The season allowed by act of parliament for catching these birds in this way, is from the latter end of October till February.

"Particular spots or decoys, in the fen countries, are let to the fowlers at a rent of from five to thirty pounds per annum; and Pennant instances a season in which thirty-one thousand two hundred Ducks, including Teals and Wigeons, were sold in London only, from ten of these decoys near Wainfleet, in Lincolnshire. Formerly, according to Willoughby, the Ducks, while in moult and unable to fly, were driven by men in boats, furnished with long poles, with which they splashed the water between long nets, stretched vertically across the pools, in the shape of two sides of a triangle, into lesser nets placed at the point; and in this way, he says, four thousand were taken at one driving in Deeping-Fen; and Latham has quoted an instance of two thousand six hundred and forty-six being taken in two days, near Spalding in Lincolnshire; but this manner of catching them while in moult is now prohibited."

REFERENCES TO THE CUT.

No. 1. Dog's hole, where he goes to unbank the fowl.
2. Reed fences on each side of the mouth of the pipe.
3. Where the decoy-man shows himself to the fowl first, and afterwards at the end of every shooting.
4. Small reed fence to prevent the fowl seeing the dog when he goes to unbank them.
5. The shootings.
6. Dog's holes between the shootings, used when working.
7. Tunnel net at the end of the pipe.
8. Mouth of the pipe.



SPECIES 6. *ANAS STREPERA.*

THE GADWALL.

[Plate LXXI.—Fig. 1, *Male.*]

Le Chipeau, Briss. vi, *p.* 339. 8. *pl.* 33. *fig.* 1.—Buff. ix, 187.—*Pl. Enl.* 958.—*Arct. Zool. p.* 575.—Lath. *Syn.* iii, *p.* 515.—Peale's *Museum*, *No.* 2750.*

This beautiful Duck I have met with in very distant parts of the United States, viz. on the Seneca lake in New York, about the twentieth of October, and at Louisville on the Ohio, in February. I also shot it near Big Bone Lick in Kentucky. With its particular manners or breeding place, I am altogether unacquainted.

The length of this species is twenty inches, extent thirty-one inches; bill two inches long, formed very much like that of the Mallard, and of a brownish black; crown dusky brown, rest of the upper half of the neck brownish white, both thickly speckled with black; lower part of the neck and breast dusky black, elegantly ornamented with large concentric semicircles of white; scapulars waved with lines of white on a dusky ground, but narrower than that of the breast; primaries ash; greater wing-coverts black, and several of the lesser coverts immediately above chestnut red; speculum white, bordered below with black, forming three broad bands on the wing of chestnut, black, and white; belly dull white; rump and tail coverts black, glossed with green; tail tapering, pointed, of a pale brown ash edged with white; flanks dull white elegantly waved; tertials long, and of a pale brown, legs orange red.

The female I have never seen. Latham describes it as follows:

* *Anas strepera*, Gmel. *Syst.* i, *p.* 520, *No.* 20.—*Ind. Orn. p.* 849, *No.* 69.—Temm. *Man. d'Orn. p.* 837.—Bewick, ii, *p.* 314.—Peale's *Museum*, *No.* 2751, *female.*

"differs in having the colours on the wings duller, though marked the same as the male; the breast reddish brown spotted with black; the feathers on the neck and back edged with pale red; rump the same instead of black; and those elegant semi-circular lines on the neck and breast wholly wanting."

The flesh of this duck is excellent, and the windpipe of the male is furnished with a large labyrinth.

The Gadwall is very rare in the northern parts of the United States; is said to inhabit England in winter, and various parts of France and Italy; migrates to Sweden, and is found throughout Russia and Siberia.*

It is a very quick diver, so as to make it difficult to be shot; flies also with great rapidity, and utters a note not unlike that of the Mallard, but louder. Is fond of salines and ponds overgrown with reeds and rushes. Feeds during the day, as well as in the morning and evening.

Note. A male specimen shot by Mr. Ord in East Florida, in the month of February, had its crown of a pale ferruginous, mixed with brown; head and neck yellowish white, barred and mottled with brown; back, outer scapulars, vent and flanks, brown, with pale zigzag lines; some of the inner scapulars reddish and cinereous brown; upper and under tail-coverts velvet black; legs and feet *yellow ochre*, part of the webs dusky. Weight two pounds.

This species is very rare on the Delaware; but in East Florida it is common. On the fresh water ponds, in the vicinity of the river St. John, Mr. Ord shot many of them; and found them in good condition, and excellent eating.

* Latham.

SPECIES 7. ANAS ACUTA.

PINTAIL DUCK.

[Plate LXVIII.—Fig. 3.]

Le Canard a longue queue, Bris. vi, *p.* 369. 16. *pl.* 34. *fig.* 1, 2.—Buff. ix, *p.* 199. *pl.* 13.—*Pl. Enl.* 954.—*Arct. Zool. No.* 500.—Lath. *Syn.* iii, *p.* 526.—Peale's *Museum*, *No.* 2806.

The Pintail, or as it is sometimes called, the Sprigtail, is a common and well known Duck in our markets, much esteemed for the excellence of its flesh, and is generally in good order. It is a shy and cautious bird, feeds in the mud flats, and shallow fresh water marshes; but rarely resides on the seacoast. It seldom dives, is very noisy, and has a kind of chattering note. When wounded they will sometimes dive, and coming up conceal themselves under the bow of the boat, moving round as it moves. Are vigilant in giving the alarm on the approach of the gunner, who often curses the watchfulness of the Sprigtail. Some Ducks when aroused disperse in different directions; but the Sprigtails when alarmed cluster confusedly together as they mount, and thereby afford the sportsman a fair opportunity of raking them with advantage. They generally leave the Delaware about the middle of March, on the way to their native regions the north, where they are most numerous. They inhabit the whole northern parts of Europe and Asia, and doubtless the corresponding latitudes of America. Are said likewise to be found in Italy. Great flocks of them are sometimes spread along the isles and shores of Scotland and Ireland, and on the interior lakes of both these countries. On the marshy shores of some of the bays of lake Ontario they are often plenty in the months of October and November. I have also met with them at Louisville on the Ohio.

The Pintail Duck is twenty-six inches in length, and two feet ten inches in extent; the bill is a dusky lead colour; irides dark hazel; head and half of the neck pale brown, each side of the neck marked with a band of purple violet, bordering the white, hind part of the upper half of the neck black, bordered on each side by a stripe of white, which spreads over the lower part of the neck before; sides of the breast and upper part of the back white, thickly and elegantly marked with transverse undulating lines of black, here and there tinged with pale buff; throat and middle of the belly white tinged with cream; flanks finely pencilled with waving lines, vent white, under tail coverts black; lesser wing coverts brown ash, greater the same, tipt with orange, below which is the speculum or beauty spot of rich golden green bordered below with a band of black, and another of white; primaries dusky brown; tertials long, black, edged with white, and tinged with rust; rump and tail coverts pale ash centered with dark brown; tail greatly pointed, the two middle tapering feathers being full five inches longer than the others and black, the rest brown ash edged with white; legs a pale lead colour.

The female has the crown of a dark brown colour; neck of a dull brownish white, thickly speckled with dark brown; breast and belly pale brownish white, interspersed with white; back and root of the neck above black, each feather elegantly waved with broad lines of brownish white, these wavings become rufous on the scapulars; vent white, spotted with dark brown; tail dark brown spotted with white; the two middle tail feathers half an inch longer than the others.

The Sprigtail is an elegantly formed, long bodied Duck, the neck longer and more slender than most others.

SPECIES 8. *ANAS AMERICANA.*

AMERICAN WIDGEON.

[Plate LXIX.—Fig. 4.]

Le Canard Jensen, Pl. Enl. 955.—Buff. ix, *p.* 174.—*Arct. Zool. No.* 502.—Lath. *Syn.* iii, *p.* 520.—Peale's *Museum, No.* 2798.

This is a handsomely marked and sprightly species, very common in winter along our whole coast, from Florida to Rhode Island; but most abundant in Carolina, where it frequents the rice plantations. In Martinico great flocks take short flights from one rice field to another during the rainy season, and are much complained of by the planters. The Widgeon is the constant attendant of the celebrated *Canvass back Duck*, so abundant in various parts of the Chesapeake Bay, by the aid of whose labour he has ingenuity enough to contrive to make a good subsistence. The Widgeon is extremely fond of the tender roots of that particular species of aquatic plant on which the Canvass back feeds, and for which that Duck is in the constant habit of diving. The Widgeon, who never dives, watches the moment of the Canvass back's rising, and before he has his eyes well opened, snatches the delicious morsel from his mouth and makes off. On this account the Canvass backs and Widgeons, or as they are called round the bay, *Bald pates*, live in a state of perpetual contention. The only chance the latter have is to retreat, and make their approaches at convenient opportunities. They are said to be in great plenty at St. Domingo and Cayenne, where they are called *Vingeon* or *Gingeon*. Are said sometimes to perch on trees. Feed in company and have a centinel on the watch, like some other birds. They feed little during the day, but in the evenings come out from their hiding places, and are then easily traced by their particular whistle or *whew whew*. This soft note or whistle is frequently imitated with success, to

entice them within gunshot. They are not known to breed in any part of the United States. Are common in the winter months along the bays of Egg Harbour and Cape May, and also those of the Delaware. They leave these places in April, and appear upon the coasts of Hudson's Bay in May, as soon as the thaws come on, chiefly in pairs; lay there only from six to eight eggs; and feed on flies and worms in the swamps; depart in flocks in autumn.*

These birds are frequently brought to the market of Baltimore, and generally bring a good price, their flesh being excellent. They are of a lively frolicksome disposition, and with proper attention might easily be domesticated.

The Widgeon or Bald pate measures twenty-two inches in length, and thirty inches in extent, the bill is of a slate colour, the nail black; the front and crown cream coloured, sometimes nearly white, the feathers inflated; from the eye backwards to the middle of the neck behind, extends a band of deep glossy green gold and purple; throat, chin, and sides of the neck before, as far as the green extends, dull yellowish white, thickly speckled with black; breast and hind part of the neck hoary bay, running in under the wings, where it is crossed with fine waving lines of black, whole belly white; vent black; back and scapulars black, thickly and beautifully crossed with undulating lines of vinous bay; lower part of the back more dusky; tail coverts long, pointed, whitish, crossed as the back; tail pointed, brownish ash, the two middle feathers an inch longer than the rest, and tapering; shoulder of the wing brownish ash, wing coverts immediately below white, forming a large spot; primaries brownish ash, middle secondaries black glossed with green, forming the speculum; tertials black edged with white, between which and the beauty spot several of the secondaries are white.

The female has the whole head and neck yellowish white, thickly speckled with black, very little rufous on the breast; the back is dark brown. The young males, as usual, very much like the females during the first season, and do not receive their

* Hutchins.

full plumage until the second year. They are also subject to a regular change every spring and autumn.

Note.—A few of these birds breed annually in the marshes in the neighbourhood of Duck creek, in the state of Delaware. An acquaintance, brought me thence, in the month of June, an egg, which had been taken from a nest situated in a cluster of alders; it was very much of the shape of the common Duck's egg; the colour a dirty white; length two inches and a quarter, breadth one inch and five-eights. The nest contained eleven eggs.

This species is seen on the Delaware as late as the first week of May. On the thirtieth of April last, I observed a large flock of them, accompanied by a few Mallards and Pintails, feeding upon the mud-flats, at the lower end of League Island, below Philadelphia. In the fresh water ponds, situated in the neighbourhood of the river St. John, in East Florida, they find an abundance of food during the winter; and they become excessively fat. It is needless to add that they are excellent eating.

G. Ord.

SPECIES 9. *ANAS OBSCURA.*

DUSKY DUCK.

[Plate LXXII.—Fig. 5.]

Arct. Zool. No. 469.—Lath. *Syn.* III, *p.* 545.—Peale's *Museum*, *No.* 2880.

This species is generally known along the seacoast of New Jersey and the neighbouring country by the name of the *Black Duck*, being the most common and most numerous of all those of its tribe that frequent the salt marshes. It is only partially migratory. Numbers of them remain during the summer, and breed in sequestered places in the marsh, or on the sea islands of the beach. The eggs are eight or ten in number, very nearly resembling those of the domestic duck. Vast numbers, however, regularly migrate farther north on the approach of spring. During their residence here in winter they frequent the marshes, and the various creeks and inlets with which those extensive flats are intersected. Their principal food consists of those minute snail shells so abundant in the marshes. They occasionally visit the sandy beach in search of small bivalves, and on these occasions sometimes cover whole acres with their numbers. They roost at night in the shallow ponds, in the middle of the salt marsh, particularly on Islands, where many are caught by the foxes. They are extremely shy during the day; and on the most distant report of a musquet, rise from every quarter of the marsh in prodigious numbers, dispersing in every direction. In calm weather they fly high, beyond the reach of shot; but when the wind blows hard, and the gunner conceals himself among the salt grass in a place over which they usually fly, they are shot down in great numbers, their flight being then low. Geese, Brant, and Black Duck are the common game

of all our gunners along this part of the coast during winter; but there are at least ten Black Duck for one Goose or Brant, and probably many more. Their voice resembles that of the Duck and Mallard; but their flesh is greatly inferior, owing to the nature of their food. They are, however, large, heavy bodied Ducks, and generally esteemed.

I cannot discover that this species is found in any of the remote northern parts of our continent; and this is probably the cause why it is altogether unknown in Europe. It is abundant from Florida to New England; but is not enumerated among the birds of Hudson's Bay, or Greenland. Its chief residence is on the seacoast, though it also makes extensive excursions up the tide waters of our rivers. Like the Mallard they rarely dive for food, but swim and fly with great velocity.

The Dusky, or Black Duck, is two feet in length, and three feet two inches in extent; the bill is of a dark greenish ash, formed very much like that of the Mallard, and nearly of the same length; irides dark; upper part of the head deep dusky brown, intermixed on the fore part with some small streaks of drab; rest of the head and greater part of the neck pale yellow ochre, thickly marked with small streaks of blackish brown; lower part of the neck, and whole lower parts, deep dusky, each feather edged with brownish white, and with fine seams of rusty white; upper parts the same, but rather deeper; the outer vanes of nine of the secondaries bright violet blue, forming the beauty spot, which is bounded on all sides by black; wings and tail sooty brown; tail feathers sharp pointed; legs and feet dusky yellow; lining of the wings pure white.

The female has more brown on her plumage; but in other respects differs little from the male, both having the beauty spot on the wing.

Note.—Of all our Ducks this is perhaps the most sagacious and the most fearful of man. In the neighbourhood of Philadelphia they are found in great numbers, they are notwithstanding hard to be obtained, in consequence of their extreme vigi-

lance, and their peculiar habits. During the day they chiefly abandon the marshes; and float in considerable bodies on the Delaware, taking their repose, with the usual precaution of employing wakeful sentinels, to give notice of danger. In the evening they resort to the muddy flats and shores, and occupy themselves throughout the greater part of the night in seeking for food. When searching out their feeding grounds, every individual is on the alert; and on the slightest appearance of an enemy the whole mount and scatter, in such a manner, that, in a flock of a hundred, it would be difficult to knock down more than two or three at one shot. Their sense of smelling is uncommonly acute, and their eyesight, if we may judge from their activity at night, must be better than that of most species. When wounded on the water, they will immediately take to the shore, if in the vicinity, and conceal themselves under the first covert, so that one accustomed to this habit can have no difficulty in finding them. *G. Ord.*

SPECIES 10. *ANAS SPONSA.*

SUMMER DUCK, OR WOOD DUCK.

[Plate LXX.—Fig. 3, *Male.*]

Le Canard d'Eté, Briss. vi, *p.* 351. 11. *pl.* 32. *fig.* 2.—*Le beau Canard huppé*, Buff. ix, *p.* 245.—*Pl. Enl.* 980. 981.—*Summer Duck*, Catesby, i, *pl.* 97.—Edw. *pl.* 101.—*Arct. Zool. No.* 943. —Lath. *Syn.* iii, *p.* 546.—Peale's *Museum*, *No.* 2872, *male*, 2873, *female.**

This most beautiful of all our Ducks, has probably no superior among its whole tribe for richness and variety of colours. It is called the *Wood Duck*, from the circumstance of its breeding in hollow trees; and the *Summer Duck*, from remaining with us chiefly during the summer. It is familiarly known in every quarter of the United States, from Florida to Lake Ontario, in the neighbourhood of which latter place I have myself met with it in October. It rarely visits the seashore, or salt marshes; its favourite haunts being the solitary deep and muddy creeks, ponds, and mill dams of the interior, making its nest frequently in old hollow trees that overhang the water.

The Summer Duck is equally well known in Mexico and many of the West India islands. During the whole of our winters they are occasionally seen in the states south of the Potowmac. On the tenth of January I met with two on a creek near Petersburgh in Virginia. In the more northern districts, however, they are migratory. In Pennsylvania the female usually begins to lay late in April or early in May. Instances have been known where the nest was constructed of a few sticks laid in a fork of the branches; usually, however, the inside of a hollow tree is selected for this purpose. On the eighteenth of May I visited

* *Anas sponsa*, Gmel. *Syst.* i, *p.* 539, *No.* 43.—*Ind. Orn. p.* 876, *No.* 97.

a tree containing the nest of a Summer Duck, on the banks of Tuckahoe river, New Jersey. It was an old grotesque white oak, whose top had been torn off by a storm. It stood on the declivity of the bank, about twenty yards from the water. In this hollow and broken top, and about six feet down, on the soft decayed wood, lay thirteen eggs, snugly covered with down, doubtless taken from the breast of the bird. These eggs were of an exact oval shape, less than those of a hen, the surface exceedingly fine grained, and of the highest polish and slightly yellowish, greatly resembling old polished ivory. The egg measured two inches and an eighth by one inch and a half. On breaking one of them, the young bird was found to be nearly hatched, but dead, as neither of the parents had been observed about the tree during the three or four days preceding; and were conjectured to have been shot.

This tree had been occupied, probably by the same pair, for four successive years, in breeding time; the person who gave me the information, and whose house was within twenty or thirty yards of the tree, said that he had seen the female, the spring preceding, carry down thirteen young, one by one, in less than ten minutes. She caught them in her bill by the wing or back of the neck, and landed them safely at the foot of the tree, whence she afterwards led them to the water. Under this same tree, at the time I visited it, a large sloop lay on the stocks, nearly finished, the deck was not more than twelve feet distant from the nest, yet notwithstanding the presence and noise of the workmen, the ducks would not abandon their old breeding place, but continued to pass out and in as if no person had been near. The male usually perched on an adjoining limb, and kept watch while the female was laying; and also often while she was sitting. A tame Goose had chosen a hollow space at the root of the same tree, to lay and hatch her young in.

The Summer Duck seldom flies in flocks of more than three or four individuals together, and most commonly in pairs, or singly. The common note of the drake is *peet, peet;* but, when standing centinel, he sees danger, he makes a noise not unlike

the crowing of a young cock, *oe eek! oe eek!* Their food consists principally of acorns, seeds of the wild oats, and insects. Their flesh is inferior to that of the Blue-winged Teal. They are frequent in the markets of Philadelphia.

Among other gaudy feathers with which the Indians ornament the calumet or pipe of peace, the skin of the head and neck of the Summer Duck is frequently seen covering the stem.

This beautiful bird has often been tamed, and soon becomes so familiar as to permit one to stroke its back with the hand. I have seen individuals so tamed in various parts of the Union. Captain Boyce, collector of the port of Havre-de-Grace, informs me that about forty years ago, a Mr. Nathan Nicols, who lived on the west side of Gunpowder creek, had a whole yard swarming with Summer Ducks, which he had tamed and completely domesticated, so that they bred and were as familiar as any other tame fowls; that he (Capt. Boyce) himself saw them in that state, but does not know what became of them. Latham says that they are often kept in European menageries, and will breed there.*

The Wood Duck is nineteen inches in length, and two feet four inches in extent, bill red, margined with black; a spot of black lies between the nostrils, reaching nearly to the tip, which is also of the same colour, and furnished with a large hooked nail; irides orange red; front, crown, and pendent crest rich glossy bronze green ending in violet, elegantly marked with a line of pure white running from the upper mandible over the eye, and with another band of white proceeding from behind the eye, both mingling their long pendent plumes with the green and violet ones, producing a rich effect; cheeks and sides of the upper neck violet; chin, throat, and collar round the neck pure white, curving up in the form of a crescent nearly to the posterior part of the eye; the white collar is bounded below with black; breast dark violet brown, marked on the fore part with minute triangular spots of white, increasing in size until they

* Gen. Syn. III, p. 547.

rice fields in the southern states, where vast numbers are taken in traps placed on small dry eminences that here and there rise above the water. These places are strewed with rice, and by the common contrivance called a *figure four*, they are caught alive in hollow traps. In the month of April they pass through Pennsylvania for the north; but make little stay at that season. I have observed them numerous on the Hudson opposite to the Kaatskill mountains. They rarely visit the seashore.

This species measures about fourteen inches in length, and twenty-two inches in extent; the bill is long in proportion, and of a dark dusky slate; the front and upper part of the head are black, from the eye to the chin is a large crescent of white, the rest of the head and half of the neck is of a dark slate richly glossed with green and violet, remainder of the neck and breast is black or dusky, thickly marked with semicircles of brownish white, elegantly intersecting each other; belly pale brown, barred with dusky, in narrow lines; sides and vent the same tint, spotted with oval marks of dusky; flanks elegantly waved with large semicircles of pale brown; sides of the vent pure white; under tail coverts black; back deep brownish black, each feather waved with large semi-ovals of brownish white; lesser wing coverts a bright light blue; primaries dusky brown; secondaries black; speculum or beauty spot, rich green, tertials edged with black or light blue, and streaked down their middle with white; the tail, which is pointed, extends two inches beyond the wings; legs and feet yellow, the latter very small; the two crescents of white before the eyes meet on the throat.

The female differs in having the head and neck of a dull dusky slate instead of the rich violet of the male, the hind head is also whitish. The wavings on the back and lower parts more indistinct; wing nearly the same in both.

SPECIES 12. *ANAS CRECCA.*

GREEN-WINGED TEAL.

[Plate LXX.—Fig. 4, *Male.*]

Lath. *Syn.* III, *p.* 554.—Bewick's *Br. Birds*, II, *p.* 338.—Peale's *Museum*, *No.* 2832.*

The naturalists of Europe have designated this little Duck by the name of the American Teal, as being a species different from their own. On an examination, however, of the figure and description of the European Teal by the ingenious and accurate Bewick, and comparing them with the present, no difference whatever appears in the length, extent, colour, or markings of either, but what commonly occurs among individuals of any other tribe; both undoubtedly belong to one and the same species.

This, like the preceding, is a fresh water Duck, common in our markets in autumn and winter; but rarely seen here in summer. It frequents ponds, marshes, and the reedy shores of creeks and rivers. Is very abundant among the rice plantations of the southern states; flies in small parties, and feeds at night. Associates often with the Duck and Mallard, feeding on the seeds of various kinds of grasses and water plants, and also on the tender leaves of vegetables. Its flesh is accounted excellent.

The Green winged Teal is fifteen inches in length, and twen-

* *Anas crecca*, Gmel. *Syst.* I, *p.* 532, No. 23.—*Anas Carolinensis*, *Id. p.* 533, No. 103.—*Ind. Orn.* p. 872, No. 100; p. 874, No. 101.—*Common Teal*, *Gen. Syn.* III, *p.* 551, No. 88.—*American Teal*, *Id. p.* 554, No. 90.—*European Teal*, *Arct. Zool.* II, *p.* 305, P. 4to. *American Teal*, *Id.* No. 504. *Br. Zool.* No. 290. —*La petite Sarcelle*, Briss. I, *p.* 436, No. 32, pl. 40, fig. 1.—Buff. IX, p. 265, pl. 17, 18.—*Pl. Enl.* 947. Temm. *Man. d'Orn.* p. 846. Peale's *Museum*, 2832, female.

ty-four inches in extent; bill black, irides pale brown, lower eye lid whitish, head glossy reddish chestnut; from the eye backwards to the nape runs a broad band of rich silky green edged above and below by a fine line of brownish white, the plumage of the nape ends in a kind of pendent crest; chin blackish; below the chestnut, the neck, for three quarters of an inch is white, beautifully crossed with circular undulating lines of black; back, scapulars, and sides of the breast white, thickly crossed in the same manner; breast elegantly marked with roundish or heart shaped spots of black on a pale vinaceous ground, variegated with lighter tints; belly white; sides waved with undulating lines; lower part of the vent feathers black; sides of the same brownish white, or pale reddish cream; lesser wing coverts brown ash, greater tipt with reddish cream; the first five secondaries deep velvetty black, the next five resplendent green, forming the speculum or beauty spot, which is bounded above by pale buff, below by white, and on each side by deep black; primaries ashy brown; tail pointed, eighteen feathers, dark drab; legs and feet flesh coloured. In some a few circular touches of white appear on the breast, near the shoulder of the wing. The windpipe has a small bony labyrinth where it separates into the lungs; the intestines measure three feet six inches, and are very small and tender.

The female wants the chestnut bay on the head, and the band of rich green through the eye, these parts being dusky white speckled with black; the breast is gray brown, thickly sprinkled with blackish, or dark brown; the back dark brown, waved with broad lines of brownish white; wing nearly the same as in the male.

This species is said to breed at Hudson's Bay, and to have from five to seven young at a time.* In France it remains throughout the year, and builds in April, among the rushes on the edges of ponds. It has been lately discovered to breed also in England, in the mosses about Carlisle.† It is not known to

* Latham. † Bewick.

breed in any part of the United States. The Teal is found in the north of Europe as far as Iceland; and also inhabits the Caspian sea to the south. Extends likewise to China, having been recognized by Latham among some fine drawings of the birds of that country.

SPECIES 13. *ANAS MOLLISSIMA.*

EIDER DUCK.

[Plate LXXI.—Fig. 2, *Male.*]

L'Oye à duvet, ou l'Eider, Briss. vi, *p.* 294. *pl.* 29, 30.—Buff. ix, *p.* 103. *pl.* 6.—*Pl. Enl.* 209.—*Great Black and White Duck*, Edw. *pl.* 98.—Bewick, ii, *p.* 279.—*Arct. Zool. No.* 480.—Lath. *Syn.* iii, *p.* 470.—Peale's *Museum*, *No.* 2706.*

The Eider Duck has been long celebrated in Europe for the abundance and excellence of its *down*, which for softness, warmth, lightness, and elasticity surpasses that of all other Ducks. The quantity found in one nest more than filled the crown of a hat; yet weighed no more than three quarters of an ounce;† and it is asserted that three pounds of this down may be compressed into a space scarce bigger than a man's fist; yet is afterwards so dilatable as to fill a quilt five feet square.‡

The native regions of the Eider Duck extend from 45° north to the highest latitudes yet discovered, both in Europe and America. Solitary rocky shores and islands are their favourite haunts. Some wandering pairs have been known to breed on the rocky islands beyond Portland in the district of Maine, which is perhaps the most southern extent of their breeding place. In England the Fern Isles, on the coast of Northumberland, are annually visited by a few of these birds, being the only place in South Britain where they are known to breed. They occur again in some of the western isles of Scotland. Greenland and Iceland abound with them, and here, in particular places, their nests are crowded so close together that a person can scarcely walk without treading on them. The natives of those countries

* *Anas mollissima*, Gmel. *Syst.* i, *p.* 514, *No.* 15.—*Ind. Orn. p.* 845, *No.* 35.
† Pennant. ‡ Salern. Orn. p. 416.

know the value of the down, and carry on a regular system of plunder both of it and also of the eggs. The nest is generally formed outwardly of drift grass, dry sea weed, and such like materials, the inside composed of a large quantity of down plucked from the breast of the female; in this soft elastic bed she deposits five eggs, extremely smooth and glossy, of a pale olive colour; they are also warmly covered with the same kind of down. When the whole number is laid, they are taken away by the natives, and also the down with which the nest is lined, together with that which covers the eggs. The female once more strips her breast of the remaining down, and lays a second time; even this, with the eggs is generally taken away, and it is said that the male in this extremity furnishes the third quantity of down from his own breast; but if the cruel robbery be a third time repeated, they abandon the place altogether. One female, during the whole time of laying, generally gives half a pound of down; and we are told, that in the year 1750, the Iceland Company sold as much of this article as amounted to three thousand seven hundred and forty-five banco dollars, besides what was directly sent to Gluckstadt.* The down from dead birds is little esteemed, having lost its elasticity.

These birds associate together in flocks, generally in deep water, diving for shell fish, which constitute their principal food. They frequently retire to the rocky shores to rest, particularly on the appearance of an approaching storm. They are numerous on the coast of Labrador, and are occasionally seen in winter as far south as the capes of Delaware. Their flesh is esteemed by the inhabitants of Greenland; but tastes strongly of fish.

The length of this species is two feet three inches, extent three feet; weight between six and seven pounds; the head is large, and the bill of singular structure, being three inches in length, forked in a remarkable manner, running high up in the forehead, between which the plumage descends nearly to the nostril; the whole of the bill is of a dull yellowish horn colour somewhat

* Letters on Iceland, by Uno Van Troil, p. 146.

dusky in the middle; upper part of the head deep velvet black, divided laterally on the hind head by a whitish band; cheeks white; sides of the head pale pea green, marked with a narrow line of white dropt from the ear feathers; the plumage of this part of the head, to the throat, is tumid, and looks as if cut off at the end, for immediately below the neck it suddenly narrows, somewhat in the manner of the Buffel-head, enlarging again greatly as it descends, and has a singular hollow between the shoulders behind; the upper part of the neck, the back, scapulars, lesser wing-coverts, and sides of the rump are pure white; lower part of the breast, belly, and vent black; tail, primaries and secondaries brownish black, the tertials curiously curved, falling over the wing; legs short, yellow; webs of the feet dusky.

Latham has given us the following sketch of the gradual progress of the young males to their perfect colours: "In the first year the back is white, and the usual parts, except the crown, black; but the rest of the body is variegated with black and white. In the second year the neck and breast are spotted black and white, and the crown black. In the third the colours are nearly as when in full plumage; but less vivid, and a few spots of black still remaining on the neck; the crown black, and bifid at the back part.

"The young of both sexes are the same, being covered with a kind of hairy down: throat and breast whitish; and a cinereous line from the bill through the eyes to the hind head."*

* Synopsis, III, p. 471.

ANAS MOLLISSIMA.

EIDER DUCK.

[Plate LXXI.—Fig. 3, *Female.*]

PEALE'S *Museum*, *No.* 2707.

THE difference of colour in these two birds is singularly great. The female is considerably less than the male, and the bill does not rise so high in the forehead; the general colour is a dark reddish drab, mingled with lighter touches, and every where spotted with black; wings dusky, edged with reddish; the greater coverts and some of the secondaries are tipt with white; tail brownish black, lighter than in the male; the plumage in general is centred with bars of black, and broadly bordered with rufous drab; cheeks and space over the eye light drab; belly dusky, obscurely mottled with black; legs and feet as in the male.

Van Troil, in his Letters on Iceland, observes respecting this Duck, that "the young ones quit the nest soon after they are hatched, and follow the female, who leads them to the water, where having taken them on her back, she swims with them a few yards, and then dives, and leaves them floating on the water! In this situation they soon learn to take care of themselves, and are seldom afterwards seen on the land; but live among the rocks; and feed on insects and sea weed."

Some attempts have been made to domesticate these birds, but hitherto without success.

SPECIES 14. *ANAS PERSPICILLATA.*

BLACK, OR SURF DUCK.

[Plate LXVII.—Fig. 1.]

Le grande Macreuse de la Baye de Hudson, Briss. vi, *p.* 425, 30. —*La Macreuse a large bec*, Buff. ix, *p.* 244.—*Pl. Enl.* 995.—Ewd. *pl.* 155.—Lath. *Syn.* iii, *p.* 479.—*Phil. Trans.* lxii, *p.* 417.—Peale's *Museum*, *No.* 2788.*

This Duck is peculiar to America, and altogether confined to the shores and bays of the sea, particularly where the waves roll over the sandy beach. Their food consists principally of those small bivalve shell fish already described, spout fish, and others that lie in the sand near its surface. For these they dive almost constantly, both in the sandy bays and amidst the tumbling surf. They seldom or never visit the salt marshes. They continue on our shores during the winter; and leave us early in May for their breeding places in the north. Their skins are remarkably strong, and their flesh coarse, tasting of fish. They are shy birds, not easily approached, and are common in winter along the whole coast from the river St. Lawrence to Florida.

The length of this species is twenty inches, extent thirty-two inches; the bill is yellowish red, elevated at the base, and marked on the side of the upper mandible with a large square patch of black, preceded by another space of a pearl colour; the part of the bill thus marked swells or projects considerably from the common surface; the nostrils are large and pervious; the sides of the bill broadly serrated or toothed; both mandibles are furnished with a nail at the extremity; irides white, or very pale

* *Anas perspicillata*, Gmel. *Syst.* i, *p.* 524, No. 25.—*Ind. Orn.* p. 847, No. 42. —Peale's *Museum*, No. 2789, female.

cream; whole plumage a shining black, marked on the crown and hind head with two triangular spaces of pure white; the plumage on both these spots is shorter and thinner than the rest; legs and feet blood red; membrane of the webbed feet black, the primary quills are of a deep dusky brown.

On dissection the gullet was found to be gradually enlarged to the gizzard, which was altogether filled with broken shell fish. There was a singular hard expansion at the commencement of the windpipe; and another much larger about three-quarters of an inch above where it separates into the two lobes of the lungs; this last was larger than a Spanish hazel nut, flat on one side and convex on the other. The protuberance on each side of the bill communicated with the nostril, and was hollow. All these were probably intended to contain supplies of air for the bird's support while under water; the last may also protect the head from the sharp edges of the shells.

The female is altogether of a sooty brown, lightest about the neck; the prominences on the bill are scarcely observable and its colour dusky.

This species was also found by captain Cooke at Nootka Sound, on the north-west coast of America.

SPECIES 15. *ANAS FUSCA.*

VELVET DUCK.

[Plate LXXII.—Fig. 3. *Male.*]

Le grande Macreuse, Briss. vi, *p.* 423, 29.—Buff. ix, *p.* 242.—*Pl. Enl.* 956.—*Arct. Zool. No.* 482.—Bewick, ii, *p.* 286.—Lath. *Syn.* iii, *p.* 482.—Peale's *Museum, No.* 2658, *Female.**

This and the following are frequently confounded together as one and the same species by our gunners on the sea coast. The former, however, differs in being of greater size; in having a broad band of white across the wing; a spot of the same under the eye, and in the structure of its bill. The habits of both are very much alike; they visit us only during the winter; feed entirely on shell fish, which they procure by diving; and return to the northern regions early in spring to breed. They often associate with the Scoters, and are taken frequently in the same nets with them. Owing to the rank fishy flavour of its flesh, it is seldom sought after by our sportsmen or gunners, and is very little esteemed.

The Velvet Duck measures twenty-three inches in length, and two feet nine inches in extent, and weighs about three pounds; the bill is broad, a little elevated at the base, where it is black, the rest red, except the lower mandible, which is of a pale yellowish white; both are edged with black, and deeply toothed; irides pale cream; under the eye is a small spot of white; general colour of the plumage brownish black, the secondaries excepted, which are white, forming a broad band across the wing; there are a few reflections of purple on the upper plu-

* *Anas Fusca,* Gmel. *Syst.* i, *p.* 507, No. 6.—*Ind. Orn. p.* 848, No. 44.—*Canard double Macreuse,* Temm. *Man. d'Orn. p.* 858.

mage; the legs are red on the outside, and deep yellow sprinkled with blackish on the inner sides; tail short and pointed.

The female is very little less than the male; but differs considerably in its markings. The bill is dusky, forehead and cheeks white, under the eye dull brownish; behind that a large oval spot of white; whole upper parts and neck dark brownish drab; tips of the plumage lighter, secondaries white; wing quills deep brown; belly brownish white; tail hoary brown; the throat is white, marked with dusky specks; legs and feet yellow.

Latham informs us that this species is sometimes seen on the coast of England, but is not common there; that it inhabits Denmark and Russia, and in some parts of Siberia is very common. It is also found at Kamtschatka, where it is said to breed, going far inland to lay; the eggs are eight or ten, and white; the males depart, and leave the females to remain with the young until they are able to fly. In the river Ochotska they are so numerous that a party of natives, consisting of fifty or more, go off in boats and drive these ducks up the river before them, and when the tide ebbs fall on them at once, and knock them on the head with clubs, killing such numbers that each man has twenty or thirty for his share.*

* Hist. Kamtschatka, p. 160.

SPECIES 16. *ANAS NIGRA.*

SCOTER DUCK.

[Plate LXXII.—Fig. 2.]

Le Macreuse, Briss. vi, *p.* 420. *pl.* 38. *fig.* 2.—Buff. ix, *p.* 234. *pl.* 16.—*Pl. Enl.* 978.—Bewick, ii, *p.* 288.—*Arct. Zool. No.* 484.—Lath. *Syn.* iii, *p.* 480.—Peale's *Museum*, *No.* 2658.*

This Duck is but little known along our seacoast, being more usually met with in the northern than southern districts; and only during the winter. Its food is shell fish, for which it is almost perpetually diving. That small bivalve so often mentioned, small muscles, spout fish, called on the coast *razor handles*, young clams, &c. furnish it with abundant fare; and wherever these are plenty the Scoter is an occasional visitor. They swim, seemingly at ease, amidst the very roughest of the surf; but fly heavily along the surface, and to no great distance. They rarely penetrate far up our rivers, but seem to prefer the neighbourhood of the ocean; differing in this respect from the Cormorant, which often makes extensive visits to the interior.

The Scoters are said to appear on the coasts of France in great numbers, to which they are attracted by a certain kind of small bivale shell fish called *vaimeaux*, probably differing little from those already mentioned. Over the beds of these shell fish the fishermen spread their nets, supporting them, horizontally, at the height of two or three feet from the bottom. At the flowing of the tide the Scoters approach in great numbers, diving after their favourite food, and soon get entangled in the nets. Twenty or thirty dozen have sometimes been taken in a single tide. These are sold to the Roman Catholics, who

* *Anas nigra*, Gmel. *Syst.* i, *p.* 508, *No.* 7.—*Ind. Orn. p.* 848, *No.* 43.—Temm. *Man. d'Orn. p.* 856.—Peale's *Museum*, *No.* 2659, *female.*

eat them on those days on which they are forbidden by their religion the use of animal food, fish excepted; these birds, and a few others of the same fishy flavour, having been exempted from the interdict, on the supposition of their being cold blooded, and partaking of the nature of fish.*

The Scoter abounds in Lapland, Norway, Sweden, Russia, and Siberia. It was also found by Osbeck, between the islands of Java and St. Paul, Lat. 30 and 34, in the month of June.†

This species is twenty-one inches in length, and thirty-four in extent, and is easily distinguished from all other Ducks by the peculiar form of its bill, which has at the base a large elevated knob, of a red colour, divided by a narrow line of yellow, which spreads over the middle of the upper mandible, reaching nearly to its extremity, the edges and lower mandible are black; the eyelid is yellow, iris dark hazel; the whole plumage is black, inclining to purple on the head and neck; legs and feet reddish.

The female has little or nothing of the knob on the bill; her plumage above a sooty brown, and below of a grayish white.

* Bewick. † Voy. i, p. 120.

SPECIES 17. *ANAS RUBIDUS.*

RUDDY DUCK.

[Plate LXXI—Fig. 5, *Adult Male.*]

PEALE'S *Museum*, *No.* 2808.

THIS very rare Duck was shot, some years ago, on the river Delaware, and appears to be an entire new species. The specimen here figured, with the female that accompanies it, and which was killed in the same river, are the only individuals of their kind I have met with. They are both preserved in the superb Museum of my much respected friend, Mr. Peale, of this city.

On comparing this Duck with the description given by Latham of the *Jamaica Shoveller*, I was at first inclined to believe I had found out the species; but a more careful examination of both satisfied me that they cannot be the same, as the present differs considerably in colour; and besides has some peculiarities which the eye of that acute ornithologist could not possibly have overlooked, in his examination of the species said to have been received by him from Jamaica. Wherever the general residence of this species may be, in this part of the world, at least, it is extremely rare, since among the many thousands of Ducks brought to our markets during winter, I have never heard of a single individual of the present kind having been found among them.

The Ruddy Duck is fifteen inches and a half in length, and twenty-two inches in extent; the bill is broad at the tip, the un-

der mandible much narrower, and both of a rich light blue; nostrils small, placed in the middle of the bill; cheeks and chin white; front, crown, and back part of the neck down nearly to the back, black; rest of the neck, whole back, scapulars, flanks and tail coverts deep reddish brown, the colour of bright mahogany; wings plain pale drab, darkest at the points; tail black, greatly tapering, containing eighteen narrow pointed feathers; the plumage of the breast and upper part of the neck is of a remarkable kind, being dusky olive at bottom, ending in hard bristly points of a silvery gray, very much resembling the hair of some kinds of seal skins; all these are thickly marked with transverse curving lines of deep brown; belly and vent silver gray, thickly crossed with dusky olive; under tail coverts white; legs and feet ash coloured.

Note.—It is a circumstance in ornithology well worthy of note, that migratory birds frequently change their route, and, consequently, become common in those districts where they had been either unknown, or considered very rare. Of the *Sylvia magnolia*, Wilson declares that he had seen but two individuals, and these in the western country; the *Muscicapa cucullata* he says is seldom observed in Pennsylvania, and the northern states; the *Muscicapa pusilla*, and the *Muscicapa Canadensis*, he considered rare birds with us; notwithstanding, in the month of May, 1815, all of these were seen in our gardens; and the Editor noted the last mentioned as among the most numerous of the passenger birds of that season.

The subject of this chapter affords a case in point. The year subsequent to the death of our author this Duck began to make its appearance in our waters. In October, 1814, the Editor procured a female, which had been killed from a flock, consisting of five, at Wind-mill Island, opposite to Philadelphia. In October, 1818, he shot three individuals, two females and a male; and in April last another male, all of which, except one, were young birds. He has also at various times, since 1814,

seen several other male specimens of this species, not one of which was an adult. In effect, the only old males which he has ever seen are that in Peale's Museum, and another in the Cabinet of the Academy of Natural Sciences of Philadelphia.

The Duck figured in the plate as the female was a young male, as the records of the Museum show; the great difference between its colours and markings, and those of the full-plumaged male, having induced the author to conclude it was a female, although he was perfectly familiar with the fact, that the young males of several species of this genus so nearly resemble the other sex, it requires a very accurate eye, aided by much experience, to distinguish them by their external characters. This is precisely the case with the present species; the yearlings, of both sexes, are alike; and it is not until the succeeding spring that those characters appear in the males which enable one to indicate them, independent on dissection.

The opinion of our author that this species is not the Jamaica Shoveller of Latham the editor cannot subscribe to, it appearing to him that the specimen from which Latham took his description was a young male of the Duck now before us. The latter informs us that the species appears in Jamaica in October or November; remains till March; and then retires to the north. This account coincides with ours: we see the bird on its way to the south in October; it reaches Jamaica in November; it departs thence in March, and revisits us, in regular progression, in April. Where its summer residence is we are not informed; and we are equally ignorant whether the species is numerous in any part of our continent or not.

Judging from the descriptions of the Ural Duck of European writers, there should seem to be a great affinity between that and the present. Through the polite attention of Mr. Charles Bonaparte, the editor was enabled to examine a female specimen of the former; and as he perceived some differences, he will here note them. The bill of the Ural Duck, from the angle of the mouth, is two inches long: that of our Duck is one inch and

three quarters, it is also less gibbous at the base than in the former, and it is less depressed above; the tail feathers of the Ural Duck are guttered their whole length: those of the Ruddy Duck are slightly canaliculated at their tips; the lateral membrane of the inner toe of the latter is not half the breadth of that of the former. In other respects the females of the two species much resemble each other. In order to draw a just parallel, it would be necessary to examine a male specimen of the European Bird, which our cabinets do not possess.

The female is fifteen inches in length; bill to the angle of the mouth one inch and three quarters long, its lower half very broad, of a deep dusky olive, the nail resembling a narrow clasp of iron; nostrils oval, with a curved furrow below them; eyes small and dark; the upper part of the head, from the bill to the hind-head, variegated with shining bronze and blackish brown, the latter crossing the head in lines; cheeks white, mixed with dusky, and some touches of bronze; lores drab and dusky, mixed with a small portion of white; neck short and thick, its lower half above, extending between the shoulders, drab, mixed with dusky; throat, and whole lower parts, dusky ash, the plumage tipt with dull white, having a silver gray appearance; the upper parts are dusky, marked or pencilled with pale ferruginous, and dull white; breast slightly tinged with reddish brown; the wings are small, greatly concave, and, when closed, are short of the extremities of the tail-coverts about three quarters of an inch—they are dusky, their coverts finely dotted or powdered with white; tail dusky, marked at its extremity with a few very fine dots of reddish white, it extends beyond its upper coverts two inches and a half; under tail-coverts white; legs and feet dusky slate; weight sixteen ounces and a half. The gizzard of the above contained sand and some small seeds. Her eggs were numerous and tolerably large; hence, as she was shot in the month of October, it was conjectured that she was a bird of the preceding year.

The young male, shot in April last, measured fifteen inches

in length; its irides were dark brown; bill elevated at the base, slightly gibbous, and blue ash, from the nostrils to the tip mixed with dusky, lower mandible yellowish flesh colour, marbled with dusky; crown brown black; throat and cheeks, as far as the upper angle of the bill, white, stained with bright yellow ochre; auriculars almost pure white; the black from the crown surrounded the eyes, and passed round the white of the auriculars; hind-head black, mixed with ferruginous; breast and shoulders bright ferruginous; belly ash and silver white; back and scapulars liver brown, finely penciled with gray and reddish white; rump and upper tail-coverts the same ground colour, but the markings not so distinct; wings light liver brown, the lesser coverts finely powdered with gray; on the back and scapulars, the flanks, and round the base of the neck, the brownish red or bright mahogany coloured plumage, which distinguishes the adult male, was coming out; inner webs of the tail partly dusky, outer webs, for two-thirds of their length, and the tip, dirty ferruginous; legs blue ash in front, behind, the toes and webs, dusky. When the tail is not spread, it is somewhat conical, and its narrow, pointed feathers, are slightly guttered at their tips; when spread, it is wedge-shaped. The trachea is of nearly equal diameter throughout; and has no labyrinth or enlargement at its lower part.

Another young male, shot in October, measured fifteen and a quarter inches in length, and twenty-three inches in breadth; bill greenish black, lower mandible yellowish flesh colour, mixed with dusky; from the bill to the hind-head a deep liver brown, the tips of the plumage bronzed; whole upper parts dark umber brown, pencilled with pale ferruginous, buff and white; from the corner of the mouth a brown marking extended towards the eye; tail dusky, ash coloured at its extremity; legs and feet dusky ash, toes paler, having a yellowish tinge, webs dusky, claws sharp.

The shafts of the tail feathers of all these specimens, except that shot in April, projected beyond the webs; in one specimen

the shaft of one of the middle feathers projected an inch, and was ramified into rigid bristles, resembling those of the tail of Buffon's *Sarcelle a queue epineuse de Cayenne*, Pl. Enl. 967; in all the specimens there was the appearance of the tail feathers having been furnished with the like process, but which had been rubbed off. Can it be that this Duck makes use of its tail in climbing up the fissures of rocks, or the hollows of trees? Its stiff, narrow feathers, not unlike those of the tail of a Woodpecker, would favour this supposition. It is worthy of note that the tail of Mr. Bonaparte's female specimen, alluded to above, is thus rubbed.

The plumage of the neck and breast, which Wilson says is of a remarkable kind, that is, stiff and bristly at the tips, is common to several Ducks, and therefore is no peculiarity.

The body of this species is broad, flat and compact; its wings short and concave; its legs placed far behind; and its feet uncommonly large; it consequently is an expert diver. It flies with the swiftness, and in the manner, of the Buffel-head; and it swims precisely as Latham reports the Ural Duck to swim, with the tail immersed in the water as far as the rump; but whether it swims thus low with the view of employing its tail as a rudder, as Latham asserts of the Ural, or merely to conceal itself from observation, as the Scaup Duck is wont to do when wounded, and as all the Divers do when pursued, I cannot determine.

This is a solitary bird; and with us we never see more than five or six together, and then always apart from other Ducks. It is uncommonly tame, so much so, that, by means of my skiff, I have never experienced any difficulty in approaching within a few yards of it. Its flesh I do not consider superior to that of the Buffel-head, which, with us, is a Duck not highly esteemed.

I should not be surprised if Buffon's *Sarcelle à queue epineuse de Cayenne* should turn out to be this species. The characters of the two certainly approximate; but as I have not been

enabled to settle the question of their identity in my own mind, I shall, for the present, let the affair rest.

G. Ord.

ANAS RUBIDUS.

RUDDY DUCK.

[Plate LXXI.—Fig. 6, *Female.**]

PEALE'S *Museum*, *No.* 2809.

THIS is nearly of the same size as the male; the front, lores, and crown, deep blackish brown; bill as in the male, very broad at the extremity, and largely toothed on the sides, of the same rich blue; cheeks a dull cream; neck plain dull drab, sprinkled about the auriculars with blackish; lower part of the neck and breast variegated with gray, ash, and reddish brown; the reddish dies off towards the belly, leaving this last of a dull white shaded with dusky ash; wings as in the male, tail brown; scapulars dusky brown thickly sprinkled with whitish, giving them a gray appearance; legs ash.

A particular character of this species is its tapering sharp pointed tail, the feathers of which are very narrow; the body is short; the bill very nearly as broad as some of those called Shovellers; the lower mandible much narrower than the upper.

* This a *young male*, and not a female.

SPECIES 18. *ANAS VALISINERIA.*

CANVAS-BACK DUCK.

[Plate LXX.—Fig. 5.]

PEALE'S *Museum*, *No.* 2816.

THIS celebrated American species, as far as can be judged from the best figures and descriptions of foreign birds, is altogether unknown in Europe. It approaches nearest to the Pochard of England, *Anas ferina*, but differs from that bird in being superior in size and weight, in the greater magnitude of its bill, and the general whiteness of its plumage. A short comparison of the two will elucidate this point. The Canvas-back measures two feet in length, by three feet in extent, and when in the best order weighs three pounds and upwards. The Pochard, according to Latham and Bewick, measures nineteen inches in length, and thirty in extent, and weighs one pound twelve or thirteen ounces. The latter writer says of the Pochard, "the plumage above and below is wholly covered with prettily freckled slender dusky threads disposed transversely in close set zig-zag lines, on a pale ground, more or less shaded off with ash;" a description much more applicable to the bird figured beside it, the *Red Head*, and which very probably is the species meant. In the figure of the Pochard given by Mr. Bewick, who is generally correct, the bill agrees very well with that of our Red Head; but is scarcely half the size and thickness of that of the Canvas-back; and the figure in the *Planches Enluminees* corresponds in that respect with Bewick's. In short, either these writers are egregiously erroneous in their figures and descriptions, or the present Duck was altogether unknown to them. Considering the latter supposition the more probable of the two, I have designated this as a new species, and shall proceed to detail some particulars of its history.

The Canvas-back Duck arrives in the United States from the north about the middle of October, a few descend to the Hudson and Delaware, but the great body of these birds resort to the numerous rivers belonging to and in the neighbourhood of the Chesapeake Bay, particularly the Susquehannah, the Patapsco, Potowmac, and James' rivers, which appear to be their general winter rendezvous. Beyond this to the south, I can find no certain accounts of them. At the Susquehannah they are called *Canvas-backs*, on the Potowmac *White-backs*, and on James' river *Sheldrakes*. They are seldom found at a great distance up any of these rivers, or even in the salt water bay; but in that particular part of tide water where a certain grass-like plant grows, on the roots of which they feed. This plant, which is said to be a species of *Valisineria*, grows on fresh water shoals of from seven to nine feet (but never where these are occasionally dry,) in long narrow grass-like blades of four or five feet in length; the root is white, and has some resemblance to small celery. This grass is in many places so thick that a boat can with difficulty be rowed through it, it so impedes the oars. The shores are lined with large quantities of it torn up by the Ducks, and drifted up by the winds, lying like hay in wind rows. Wherever this plant grows in abundance the Canvas-backs may be expected, either to pay occasional visits or to make it their regular residence during the winter. It occurs in some parts of the Hudson; in the Delaware near Gloucester, a few miles below Philadelphia; and in most of the rivers that fall into the Chesapeake, to each of which particular places these Ducks resort; while in waters unprovided with this nutritive plant they are altogether unknown.

On the first arrival of these birds in the Susquehannah, near Havre-de-Grace, they are generally lean; but such is the abundance of their favourite food, that towards the beginning of November they are in pretty good order. They are excellent divers, and swim with great speed and agility. They sometimes assemble in such multitudes as to cover several acres of the river, and when they rise suddenly, produce a noise resembling

thunder. They float about these shoals, diving and tearing up the grass by the roots, which is the only part they eat. They are extremely shy, and can rarely be approached unless by stratagem. When wounded in the wing they dive to such prodigious distances, and with such rapidity, continuing it so perseveringly, and with such cunning and active vigour, as almost always to render the pursuit hopeless. From the great demand for these Ducks, and the high price they uniformly bring in market, various modes are practised to get within gunshot of them. The most successful way is said to be, decoying them to the shore by means of a dog, while the gunner lies closely concealed in a proper situation. The dog, if properly trained, plays backwards and forwards along the margin of the water, and the Ducks observing his manœuvres, enticed perhaps by curiosity, gradually approach the shore, until they are sometimes within twenty or thirty yards of the spot where the gunner lies concealed, and from which he rakes them, first on the water and then as they rise. This method is called *tolling them in.* If the Ducks seem difficult to decoy, any glaring object, such as a red handkerchief, is fixed round the dog's middle, or to his tail, and this rarely fails to attract them. Sometimes by moonlight the sportsman directs his skiff towards a flock whose position he had previously ascertained, keeping within the projecting shadow of some wood, bank, or headland, and paddles along so silently and imperceptibly as often to approach within fifteen or twenty yards of a flock of many thousands, among whom he generally makes great slaughter.

Many other stratagems are practised, and indeed every plan that the ingenuity of the experienced sportsman can suggest, to approach within gun shot of these birds; but of all the modes pursued, none intimidate them so much as shooting them by night; and they soon abandon the place where they have been thus repeatedly shot at. During the day they are dispersed about; but towards evening collect in large flocks, and come into the mouths of creeks, where they often ride as at anchor, with their head under their wing, asleep, there being always

centinels awake ready to raise an alarm on the least appearance of danger. Even when feeding and diving in small parties, the whole never go down at one time, but some are still left above on the look out.

When the winter sets in severely, and the river is frozen, the Canvas-backs retreat to its confluence with the bay, occasionally frequenting air holes in the ice, which are sometimes made for the purpose, immediately above their favourite grass, to entice them within gun shot of the hut or bush which is usually fixed at a proper distance, and where the gunner lies concealed, ready to take advantage of their distress. A Mr. Hill, who lives near James' river, at a place called Herring Creek, informs me, that one severe winter he and another person broke a hole in the ice about twenty by forty feet, immediately over a shoal of grass, and took their stand on the shore in a hut of brush, each having three guns well loaded with large shot. The Ducks, which were flying up and down the river in great extremity, soon crowded to this place, so that the whole open space was not only covered with them, but vast numbers stood on the ice around it. They had three rounds firing both at once, and picked up eighty-eight Canvas-backs, and might have collected more had they been able to get to the extremity of the ice after the wounded ones. In the severe winter of 1779–80, the grass, on the roots of which these birds feed, was almost wholly destroyed in James' river. In the month of January the wind continued to blow from W. N. W. for twenty-one days, which caused such low tides in the river that the grass froze to the ice every where, and a thaw coming on suddenly, the whole was raised by the roots and carried off by the fresh. The next winter a few of these Ducks were seen, but they soon went away again; and for many years after, they continued to be scarce; and even to the present day, in the opinion of my informant, have never been so plenty as before.

The *Canvas-back*, in the rich juicy tenderness of its flesh, and its delicacy and flavour, stands unrivalled by the whole of its tribe in this or perhaps any other quarter of the world. Those

killed in the waters of the Chesapeake are generally esteemed superior to all others, doubtless from the great abundance of their favourite food which these rivers produce. At our public dinners, hotels, and particular entertainments, the Canvas-backs are universal favourites. They not only grace but dignify the table, and their very name conveys to the imagination of the eager epicure the most comfortable and exhilarating ideas. Hence on such occasions it has not been uncommon to pay from one to three dollars a pair for these ducks; and, indeed, at such times, if they can they must be had, whatever may be the price.

The Canvas-back will feed readily on grain, especially wheat, and may be decoyed to particular places by baiting them with that grain for several successive days. Some few years since a vessel loaded with wheat was wrecked near the entrance of Great Egg Harbour, in the autumn, and went to pieces. The wheat floated out in vast quantities, and the whole surface of the bay was in a few days covered with Ducks of a kind altogether unknown to the people of that quarter. The gunners of the neighbourhood collected in boats, in every direction, shooting them, and so successful were they, that, as Mr. Beasley informs me, two hundred and forty were killed in one day, and sold among the neighbours, at twelve and a half cents a piece, without the feathers. The wounded ones were generally abandoned, as being too difficult to be come up with. They continued about for three weeks, and during the greater part of that time a continual cannonading was heard from every quarter. The gunners called them *Sea Ducks*. They were all *Canvas-backs*, at that time on their way from the north, when this floating feast attracted their attention, and for a while arrested them in their course. A pair of these very ducks I myself bought in Philadelphia market at the time, from an Egg Harbour gunner, and never met with their superior either in weight or excellence of flesh. When it was known among those people the loss they had sustained in selling for twenty-five cents what would have

brought them from a dollar to a dollar and a half per pair, universal surprise and regret were naturally enough excited.

The Canvas-back is two feet long, and three feet in extent, and when in good order weighs three pounds; the bill is large, rising high in the head, three inches in length, and one inch and three-eighths thick at the base, of a glossy black; eye very small, irides dark red; cheeks and fore part of the head blackish brown; rest of the head and greater part of the neck bright glossy reddish chestnut, ending in a broad space of black that covers the upper part of the breast, and spreads round to the back; back, scapulars, and tertials white, faintly marked with an infinite number of transverse waving lines or points as if done with a pencil; whole lower parts of the breast, also the belly, white, slightly pencilled in the same manner, scarcely perceptible on the breast, pretty thick towards the vent; wing coverts gray with numerous specks of blackish; primaries and secondaries pale slate, two or three of the latter of which nearest the body are finely edged with deep velvetty black, the former dusky at the tips; tail very short, pointed, consisting of fourteen feathers of a hoary brown; vent and tail coverts black; lining of the wing white; legs and feet very pale ash, the latter three inches in width, a circumstance which partly accounts for its great powers of swimming.

The female is somewhat less than the male, and weighs two pounds and three quarters; the crown is blackish brown, cheeks and throat of a pale drab; neck dull brown; breast as far as the black extends on the male, dull brown skirted in places with pale drab; back dusky white crossed with fine waving lines; belly of the same dull white, pencilled like the back; wings, feet, and bill, as in the male; tail coverts dusky, vent white waved with brown.

The windpipe of the male has a large flattish concave labyrinth, the ridge of which is covered with a thin transparent membrane; where the trachea enters this it is a very narrow, but immediately above swells to three times that diameter. The intestines are wide, and measure five feet in length.

Note.—It is a circumstance calculated to excite our surprise, that the Canvas-back, one of the commonest species of our country, a Duck which frequents the waters of the Chesapeake in flocks of countless thousands, should yet have been either overlooked by the naturalists of Europe, or confounded with the Pochard, a species whose characters are so obviously different. But that this is the fact I feel well assured, since I have carefully examined every author of repute, to which I have had access, and have not been enabled to find any description which will correspond to the subject before us. The species, then, we hope, will stand as Wilson's own; and it is no small addition to the fame of the American Ornithology that it contains the first scientific account of the finest Duck that any country can boast of.

The Canvas-back frequents the Delaware in considerable numbers. The *Vallisneria* grows pretty abundantly, in various places, from Burlington, New Jersey, to Eagle Point, a few miles below Philadelphia. Wherever this plant is found there will the Ducks be; and they will frequently venture within reach of their enemies' weapons rather than abstain from the gratification of their appetite for this delicious food. The shooters in the neghbourhood of Philadelphia for many years were in the habit of supplying our markets with this species, which always bore the name of Red-heads or Red-necks; and their ignorance of its being the true Canvas-back was cunningly fostered by our neighbours of the Chesapeake, who boldly asserted that only their waters were favoured with this species, and that all other Ducks, which seemed to claim affinity, were a spurious race, unworthy of consanguinity. Hence at the same time when a pair of legitimate Canvas-backs, proudly exhibited from the mail-coach, from Havre-de-Grace, readily sold for two dollars and fifty cents, a pair of the identical species, as fat, as heavy, as delicious, but which had been unfortunately killed in the Delaware, brought only one dollar; and the lucky shooter thought himself sufficiently rewarded in obtaining twenty-five per cent. more for his *Red-necks* than he could obtain for

a pair of the finest Mallards that our waters could afford. But the delusion is now passed; every shooter and huckster knows the distinctive characters of the Canvas-back and the Red-head; and prejudice no longer controverts the opinion that this species is a common inhabitant of the Delaware; and epicures are compelled to confess that they can discern no difference between our Canvas-back, when in season, and that from Spesutie, or Carrol's Island, the notorious shooting ground of the *bon-vivants* of Baltimore.

The last mentioned place, though commonly termed an island, is properly a peninsula, situated on the western side of the Chesapeake bay, a few miles from Baltimore. It is a spot highly favourable for the shooting of water fowl. It extends for a considerable distance into the bay; and, being connected to the main land by a narrow neck, the shooters are enabled to post themselves advantageously on the isthmus, and intercept the fowl, who, in roving from one feeding ground to another, commonly prefer crossing the land to taking a long flight around the peninsula. In calm weather the shooters have not much luck, the Ducks keeping out in the coves, and, when they do move, flying high; but should a fresh breeze prevail, especially one from the eastward, rare sport may be anticipated; and it is no unusual circumstance for a party of four or five gentlemen, returning home, after a couple of days' excursion, with fifty or sixty Canvas-backs, besides some other Ducks of inferior note. The greatest flight of Ducks commonly takes place between daybreak and sunrise, and while it lasts the roaring of the fowling pieces, the bustle of the sportsmen, the fluttering of the fowl, and the plunging of the dogs, constitute a scene productive of intense interest. The dog in most esteem for this amusement is a large breed, partaking of the qualities of the Newfoundland variety. They trust altogether to their sight, and it is astonishing what sagacity they will manifest in watching a flock of Ducks that had been shot at, and marking the birds that drop into the water, even at a considerable distance off. When at fault, the motion of their master's hand is readily

obeyed by them; and when unable to perceive the object of their search, they will raise themselves in the water for this purpose, and will not abandon the pursuit while a chance remains of succeeding. A generous, well-trained dog, has been known to follow a Duck for more than half a mile; and, after having been long beyond the reach of seeing or hearing his master, to return, puffing and snorting under his load, which seemed sufficient to drag him beneath the waves. The Editor having been an eye-witness of similar feats of these noble animals, can therefore speak with confidence as to the fact.

On the Delaware but few of this species, comparatively, are obtained, for the want of proper situations whence they may be shot on the wing. To attempt to approach them, in open day, with a boat, is unproductive labour, except there be floating ice in the river, at which time, if the shooter clothe himself in white, and paint his skiff of the same colour, he may so deceive the Ducks as to get within a few feet of them. At such times it is reasonable to suppose that these valuable birds get no quarter. But there is one caution to be observed, which experienced sportsmen never omit: it is to go always *with* the current; a Duck being sagacious enough to know that a lump of ice seldom advances *against* the stream. They are often shot, with us, by moonlight, in the mode related in the foregoing account; the first pair the Editor ever killed was in this manner; he was then a boy, and was not a little gratified with his uncommon acquisition.

As the *Vallisneria*, will grow in all our fresh water rivers, in coves, or places not affected by the current, it would be worth the experiment to transplant this vegetable in those waters where it at present is unknown. There is little doubt the Canvas-backs would, by this means, be attracted; and thus would afford the lovers of good eating an opportunity of tasting a delicacy, which, in the opinion of many, is unrivalled by the whole feathered race.

In the spring, when the Duck-grass becomes scarce, the Canvas-backs are compelled to subsist upon other food, particularly

shell-fish; their flesh then loses its delicacy of flavour, and although still fat, it is not esteemed by epicures; hence the Ducks are not much sought after; and are permitted quietly to feed until their departure for the north.

Our author states that he had had no certain accounts of this species to the southward of James' river, Virginia. In the month of January, 1818, I saw many hundreds of these Ducks feeding in the Savannah river, not far from Tybee light-house. They were known by the name of Canvas-backs; but the inhabitants of that quarter considered them as fishing Ducks, not fit to be eaten: so said the pilot of the ship which bore me to Savannah. But a pair of these birds having been served up at table, after my arrival, I was convinced, by their delicate flavour, that they had lost little by their change of residence, but still maintained their superiority over all the water fowl of that region. In the river St. John, in East Florida, I also saw a few scattered individuals of this species; but they were too shy to be approached within gunshot.

The Canvas-backs swim very low, especially when fat; and when pursued by a boat, they stretch themselves out in lines, in the manner of the Scaup Ducks, so that some of the flock are always enabled to reconnoitre the paddler, and give information, to the rest, of his motions. When the look-out Ducks apprehend danger, the stretching up of their necks is the signal, and immediately the whole squadron, facing to the wind, rise with a noise which may be heard at the distance of half a mile.

The guns employed in Canvas-back shooting should be of a medium length and caliber; and of the most approved patent breech. My experience has taught me that a barrel of three feet seven inches, with a bore short of seven-eights of an inch, is quite as effective as one of greater dimensions; and is certainly more convenient. It may appear a work of supererogation to speak of the quality of powder to be used in this kind of sporting; and yet so often are shooters deceived in this article, either through penuriousness or negligence, that a word of advice may not be unprofitable. One should obtain the best

powder, without regard to price; it being an indisputable maxim in shooting, but which is too often forgotten, that the best is always the cheapest.

SPECIES 19. *ANAS FERINA?*

RED-HEADED DUCK.

[Plate LXX.—Fig. 6, *Male.*]

PEALE'S *Museum, No.* 2710.*

THIS is a common associate of the Canvas-back, frequenting the same places, and feeding on the *stems* of the same grass, the latter eating only the *roots;* its flesh is very little inferior, and it is often sold in our markets for the Canvas-back, to those unacquainted with the characteristic marks of each. Anxious as I am to determine precisely whether this species be the Red-headed Wigeon, Pochard, or Dun† bird of England, I have not been able to ascertain the point to my own satisfaction; though I think it very probably the same, the size, extent, and general description of the Pochard agreeing pretty nearly with this.

The Red-head is twenty inches in length, and two feet six inches in extent; bill dark slate, sometimes black, two inches long, and seven-eights of an inch thick at the base, furnished with a large broad nail at the extremity; irides flame-coloured; plumage of the head long, velvetty, and inflated, running high above the base of the bill; head, and about two inches of the neck deep glossy reddish chestnut; rest of the neck and upper

* *Anas Ferina*, GMEL. I, p. 530, No. 31.—*Anas rufa, Id.* p. 515.—*Ind. Orn.* p. 862, No. 77; p. 863, No. 78.—*Rufous necked-Duck, Gen. Syn.* III, p. 477, No. 32.—*Pochard, Id.* p. 523, No. 68.—*Red-headed Duck*, LAWSON'S *Carolina*, p. 150.—BEWICK, II, p. 320.—*Arct. Zool.* No. 491. *Br. Zool.* No. 284.—*Le Millouin*, BRISS. VI, *p.* 384, *No.* 19, *pl.* 35. *fig.* 1; *Le Millouin nois, Id.* p. 389, *A. young male?; Le Millouin du Mexique, Id. p.* 390, No. 20, *female*, BUFF. IX, *p.* 216. *Pl. Enl.* 803. TEMM. *Man. d'Orn.* p. 669.—WILLOUGHBY, p. 367, § XI.—MONTAGU, *Orn. Dict.*—PEALE'S *Museum*, No. 2711, female.

† Local names given to one and the same Duck. It is also called the *Poker.*

part of the breast black, spreading round to the back; belly white, becoming dusky towards the vent by closely marked undulating lines of black; back and scapulars bluish white, rendered gray by numerous transverse waving lines of black; lesser wing coverts brownish ash; wing quills very pale slate, dusky at the tips; lower part of the back and sides under the wings brownish black, crossed with regular zig-zag lines of whitish; vent, rump, tail, and tail coverts black; legs and feet dark ash.

The female has the upper part of the head dusky brown, rest of the head and part of the neck a light sooty brown; upper part of the breast ashy brown, broadly skirted with whitish; back dark ash, with little or no appearance of white pencilling; wings, bill, and feet nearly alike in both sexes.

This Duck is sometimes met with in the rivers of North and South Carolina, and also in those of Jersey and New York; but always in fresh water, and usually at no great distance from the sea. Is most numerous in the waters of the Chesapeake; and with the connoisseurs in good eating, ranks next in excellence to the Canvas-back. Its usual weight is about a pound and three-quarters, avoirdupois.

The Red-head leaves the bay and its tributary streams in March, and is not seen until late in October.

The male of this species has a large flat bony labyrinth on the bottom of the windpipe, very much like that of the Canvas-back, but smaller; over one of its concave sides is spread an exceeding thin transparent skin, or membrane. The intestines are of great width, and measure six feet in length.

SPECIES 20. *ANAS MARILA.*

SCAUP DUCK.

[Plate LXIX.—Fig. 3.]

Le petit Morillon rayé, Briss. vi, *p.* 416. 26. *A.—Arct. Zool. No.* 498.—Lath. *Syn.* iii, *p.* 500.—Peale's *Museum*, *No.* 2668.

This Duck is better known among us by the name of the *Blue Bill.* It is an excellent diver; and according to Willoughby feeds on a certain small kind of shell fish called *scaup*, whence it has derived its name. It is common both to our fresh water rivers and seashores in winter. Those that frequent the latter are generally much the fattest, on account of the greater abundance of food along the coast. It is sometimes abundant in the Delaware, particularly in those places where small snails, its favorite shell fish abound; feeding also, like most of its tribe, by moonlight. They generally leave us in April, though I have met with individuals of this species so late as the middle of May, among the salt marshes of New Jersey. Their flesh is not of the most delicate kind, yet some persons esteem it. That of the young birds is generally the tenderest and most palatable.

The length of the Blue Bill is nineteen inches, extent twenty-nine inches: bill broad, generally of a light blue, sometimes of a dusky lead colour; irides reddish; head tumid, covered with plumage of a dark glossy green, extending half way down the neck; rest of the neck and breast black, spreading round to the back; back and scapulars white, thickly crossed with waving lines of black; lesser coverts dusky, powdered with veins of whitish, primaries and tertials brownish black; secondaries white, tipt with black, forming the speculum; rump and tail coverts black; tail short, rounded, and of a dusky brown; belly white, crossed near the vent with waving lines of ash; vent black; legs and feet dark slate.

Such is the colour of the bird in its perfect state. Young birds vary considerably, some having the head black mixed with gray and purple, others the back dusky with little or no white, and that irregularly dispersed.

The female has the front and sides of the same white, head and half of the neck blackish brown; breast, spreading round to the back, a dark sooty brown, broadly skirted with whitish; back black, thinly sprinkled with grains of white, vent whitish; wings the same as in the male.

The windpipe of the male of this species is of large diameter; the labyrinth similar to some others, though not of the largest kind; it has something of the shape of a single cockle shell; its open side or circular rim, covered with a thin transparent skin. Just before the windpipe enters this, it lessens its diameter at least two-thirds, and assumes a flattish form.

The Scaup Duck is well known in England. It inhabits Iceland and the more northern parts of the continent of Europe, Lapland, Sweden, Norway, and Russia. It is also common on the northern shores of Siberia. Is very frequent on the river Ob. Breeds in the north, and migrates southward in winter. It inhabits America as high as Hudson's Bay, and retires from this last place in October. *

Note. Pennant and Latham state that the male weighs a pound and a half; and the female two ounces more. This is undoubtedly an error, the female being less than the male, and the latter being generally the fattest. Montagu says that the species weighs sometimes as much as thirty-five ounces, which statement comes nearer the truth than that of the foregoing. On the eighth of April, of the present year, (1824,) I shot, on the Delaware, an adult male which weighed two pounds and three quarters. I have frequently shot them of two pounds and a half; and on the Chesapeake, and on the coast, they are still heavier.

In the Delaware there are several favourite feeding grounds of the Blue-bill along the Jersey shore, from Burlington to

* Latham.

Mantua creek; but the most noted spot appears to be the cove which extends from Timber creek to Eagle Point, and known by the name of Ladd's cove. Thither the Blue-bills repair in the autumn, and never quit it until they depart in the spring for the purpose of breeding, except when driven away, in the winter, by the ice. It is no uncommon circumstance to see many hundreds of these birds at once constantly diving for food; but so shy are they, that even with the aid of a very small, and well-constructed skiff, cautiously paddled, it is difficult to approach them within gunshot. So very sagacious are they, that they appear to know the precise distance wherein they are safe; and, after the shooter has advanced within this point, they then begin to spread their lines in such a manner that, in a flock of a hundred, not more than three or four can be selected in a group at any one view. They swim low in the water; are strong feathered; and are not easily killed. When slightly wounded, and unable to fly, it is almost hopeless to follow them, in consequence of their great skill in diving. Their wings being short they either cannot rise with the wind, when it blows freshly, or they are unwilling to do so, for they are invariably seen to rise against the wind. In a calm they get up with considerable fluttering.

The Blue-bills when disturbed by the fishermen along the Jersey shore, in the spring, resort to other feeding places; and they are frequently observed a short distance below the Philadelphia Navy-yard, particularly at the time when their favourite snail-shells begin to crawl up the muddy shore for the purpose of breeding. Though often seen feeding in places where they can reach the bottom with their bills, yet they seldom venture on the shore, the labour of walking appearing repugnant to their inclinations. When wounded they will never take to the land if they can possibly avoid it; and when compelled to walk they waddle along in the awkward manner of those birds whose legs, placed far behind, do not admit of a free and graceful progression.

SPECIES 21. *ANAS FULIGULA.**

TUFTED DUCK.

[Plate LXVII.—Fig. 5.]

Arct. Zool. p. 573.—*Le petit Morillon*, Briss. vi, 411. 26. *pl.* 37. 1.—Buff. ix, *p.* 227. 231. *pl.* 15.—Lath. *Syn.* iii, *p.* 540.—Peale's *Museum*, *No.* 2904.

This is an inhabitant of both continents; it frequents fresh water rivers, and seldom visits the seashore. It is a plump, short bodied Duck; its flesh generally tender, and well tasted. They are much rarer than most of our other species, and are seldom seen in market. They are most common about the beginning of winter, and early in the spring. Being birds of passage they leave us entirely during the summer.

The Tufted Duck is seventeen inches long, and two feet two inches in extent; the bill is broad and of a dusky colour, sometimes marked round the nostrils and sides with light blue; head crested, or *tufted*, as its name expresses, and of a black colour, with reflections of purple; neck marked near its middle by a band of deep chestnut; lower part of the neck black, which spreads quite round to the back; back and scapulars black, minutely powdered with particles of white, not to be observed but on a near inspection; rump and vent also black; wings ashy brown; secondaries pale ash or bluish white; tertials black, reflecting green, lower part of the breast and whole belly white; flanks crossed with fine zigzag lines of dusky; tail short, rounded, and of a dull brownish black; legs and feet greenish ash, webs black, irides rich orange; stomach filled with gravel and some vegetable food.

* *Anas rufitorques*, Bonaparte, *Journal of the Academy of Natural Sciences of Philadelphia*, iii, *p.* 385; *pl.* 13. *fig.* 6, *the trachea.*

In young birds the head and upper part of the neck are purplish brown; in some the chestnut ring on the fore part of the middle of the neck is obscure, in others very rich and glossy, and in one or two specimens which I have seen it is altogether wanting. The back is in some instances destitute of the fine powdered particles of white; while in others these markings are large and thickly interspersed.

The specimen from which the drawing was taken, was shot on the Delaware on the tenth of March, and presented to me by Dr. S. B. Smith of this city. On dissection it proved to be a male, and was exceedingly fat and tender. Almost every specimen I have since met with has been in nearly the same state; so that I cannot avoid thinking this species equal to most others for the table, and greatly superior to many.

Note.—It is remarkable that our author should not have observed the difference between this species and the *fuligula* of Europe; and still more worthy of note that Mr. Temminck, whose powers of discrimination are unusually acute, should also have been misled by the opinions of others, and concluded, with Wilson, that the Tufted Duck figured in our plate was of the same species as the Tufted Duck of Europe. The only apology which we can make for our author is, that he had never had an opportunity of examining a specimen of the *fuligula;* otherwise the specific differences of the two would have been obvious at the first glance. The bill of the *fuligula* has not those white bands or markings which are so conspicuous in our bird, its neck is also destitute of the chestnut collar; the speculum of the former is pure white, that of the latter is pale ash; and, what is a still more striking characteristic, its head is merely tufted, while the *fuligula's* is ornamented with a pendent crest, of two inches in length.

The credit of having been the first to publicly announce our bird as a new species belongs to Mr. Charles Bonaparte, who, in the publication quoted at the head of this article, has given

a comparative description of the two birds, and named the subject of this article *rufitorques.*

The American Tufted Duck is said to be common on the Ohio, and the Mississippi; Messieurs Say and Peale procured it on the Missouri; Lewis and Clark shot it on the Columbia;* and myself in East Florida. It is, properly speaking, a fresh water Duck, although it is sometimes found on the coast. On the Delaware we observe it in the spring and autumn; and, if the weather be moderate, we see it occasionally throughout the winter. With us it is not a numerous species; and is rather a solitary bird, seldom more than four or five being found together. It is more common in the month of March than at any other time. It is a plump, short-bodied Duck; its flesh tender, and well tasted; but in no respect to be compared to that of the Canvass-back; it is even inferior to the Mallard.

The American Tufted Duck is seventeen inches long, and twenty-seven inches in br.adth; the bill is broad, of a dull bluish ash colour, the base of the upper mandible marked with a stripe of pure white, which extends along its edges, and then forms a wider band across near the tip, which is of a deep black —this white band changes after death to gray or bluish white; irides rich orange; a spot of white on the chin; head tufted, and, with the upper part of the neck, black, with reflections of rich purple, predominating on the back part of the neck; about the middle of the neck there is an interrupted band of a rich deep glossy chestnut; throat, lower part of the neck, breast, back, scapulars, rump, and tail-coverts, of a silky brownish black; primaries and wing-coverts brown; tertials dark brown, with strong reflections of green; secondaries pale ash, or bluish white, forming the speculum, some tipt with brown and others with white; back and scapulars powdered with particles of dull white, not to be observed but on a near inspection, and presenting the appearance of dust; lower part of the breast, and whole belly, white, with a yellowish tinge; vent dusky; sides under the

* Hist. of the Exped. vol. II, p. 195, 8vo.

wings, and flanks, beautifully marked with fine zigzag lines of dusky; tail dull brown, cuneiform, and composed of fourteen feathers; the primaries, wing-coverts, back and scapulars, are glossed with green; webs of the feet black. The colour of the legs and feet varies: those of the figure in the plate were greenish ash; those of the specimen above described were pale yellow ochre, dashed with black; and those of Mr. Bonaparte's specimen were bluish ash. The above description was taken from a fine adult male, shot by myself on the 1st of April, 1814.

On the 8th of March, 1815, I shot from a flock, consisting of five individuals, two males; and an adult female in full plumage.

Female: Length sixteen inches and a half; bill darker than that of the male, without the white at its base, above the nail with a band of dull bluish white; beneath the eyes a spot of white; chin and front part of the lores white; throat spotted with dusky; cheeks and auriculars finely powdered with white; neck without the chestnut band; head, neck, breast, upper parts of the back, lower parts of the belly, and vent, a snuff-coloured brown; belly whitish; lower part of the back dusky; the under tail-coverts pencilled with fine zigzag lines; neck rather thicker than that of the male, but the head equally tufted; the wings, feet, legs, tail and eyes, resemble those parts of the male. The dust-like particles, which are so remarkable upon the back and scapulars of the male, are wanting in the female.

In young males the head and upper part of the neck are purplish brown, in some the chestnut band of the neck is obscure.

The stomachs of those specimens which I dissected were filled with gravel and vegetable food. The trachea, according to the observations of Mr. Bonaparte, resembles that of the *fuligula*.

This species is in no respect so shy and cunning as the Scaup Duck, and is more easily shot.

G. Ord.

SPECIES 22. ANAS CLANGULA.

GOLDEN EYE.

[Plate LXVII.—Fig. 6.]

Le Garrot, Briss. vi, *p.* 416. 27. *pl.* 37. *fig.* 2.—Buff. ix, *p.* 222. —*Arct. Zool. No.* 486.—Lath. *Syn.* iii, *p.* 535.—Peale's *Museum, No.* 2921.*

This Duck is well known in Europe, and in various regions of the United States, both along the seacoast and about the lakes and rivers of the interior. It associates in small parties, and may easily be known by the vigorous whistling of its wings, as it passes through the air. It swims and dives well; but seldom walks on shore, and then in a waddling awkward manner. Feeding chiefly on shell fish, small fry, &c. their flesh is less esteemed than that of the preceding. In the United States they are only winter visitors, leaving us again in the month of April, being then on their passage to the north to breed. They are said to build, like the Wood Duck, in hollow trees.

The Golden-eye is nineteen inches long, and twenty-nine in extent, and weighs on an average about two pounds; the bill is black, short, rising considerably up in the forehead; the plumage of the head and part of the neck is somewhat tumid, and of a dark green with violet reflections, marked near the corner of the mouth with an oval spot of white; the irides are golden yellow; rest of the neck, breast, and whole lower parts white, except the flanks, which are dusky; back and wings black; over

* *Le Garrot, Pl. Enl.* 802.—*Morrillon, Arct. Zool.* ii, *p.* 300, *F.*—*Br. Zool. No.* 276, 277.—Lath. *Supp.* ii, *p.* 535, *No.* 26.—*Ind. Orn. p.* 867, *No.* 87; *A. glancion, Id. p.* 868, *No.* 88.—Gmel. *Syst.* i, *p.* 523, *No.* 23; *Id. p.* 525, *No.* 26.—Temm. *Man. d'Orn.* i, *p.* 870.—Bewick, ii, *p.* 330.—Peale's *Museum,* 2922, *female.*

the latter a broad bed of white extends from the middle of the lesser coverts to the extremity of the secondaries; the exterior scapulars are also white; tail hoary brown; rump and tail coverts black; legs and toes reddish orange; webs very large, and of a dark purplish brown; hind toe and exterior edge of the inner one broadly finned; sides of the bill obliquely dentated; tongue covered above with a fine thick velvetty down of a whitish colour.

The full plumaged female is seventeen inches in length, and twenty-seven inches in extent; bill brown, orange near the tip; head and part of the neck brown, or very dark drab, bounded below by a ring of white; below that the neck is ash, tipt with white; rest of the lower parts white; wings dusky, six of the secondaries and their greater coverts pure white, except the tips of the last, which are touched with dusky spots; rest of the wing coverts cinereous, mixed with whitish; back and scapulars dusky, tipt with brown; feet dull orange; across the vent a band of cinereous; tongue covered with the same velvetty down as the male.

The young birds of the first season very much resemble the females; but may generally be distinguished by the white spot, or at least its rudiments, which marks the corner of the mouth. Yet, in some cases, even this is variable, both old and young male birds occasionally wanting the spot.

From an examination of many individuals of this specics of both sexes, I have very little doubt that the Morillon of English writers (*Anas glaucion*) is nothing more than the young male of the Golden-eye.

The conformation of the trachea, or windpipe of the male of this species, is singular. Nearly about its middle it swells out to at least five times its common diameter, the concentric hoops or rings, of which this part is formed, falling obliquely into one another when the windpipe is relaxed; but when stretched, this part swells out to its full size, the rings being then drawn apart; this expansion extends for about three inches; three more below this it again forms itself into a hard cartilaginous shell, of an irregular figure, and nearly as large as a walnut; from the

bottom of this labyrinth, as it has been called, the trachea branches off to the two lobes of the lungs; that branch which goes to the left lobe being three times the diameter of the right. The female has nothing of all this. The intestines measure five feet in length, and are large and thick.

I have examined many individuals of this species, of both sexes and in various stages of colour, and can therefore affirm, with certainty, that the foregoing descriptions are correct. Europeans have differed greatly in their accounts of this bird, from finding males in the same garb as the females; and other full plumaged males destitute of the spot of white on the cheek; but all these individuals bear such evident marks of belonging to one peculiar species, that no judicious naturalist, with all these varieties before him, can long hesitate to pronounce them the same.

SPECIES 23. *ANAS ALBEOLA.*

BUFFEL-HEADED DUCK.

[Plate LXVII.—Fig. 2, *Male.*—Fig. 3, *Female.*]

La Sarcelle de la Louisiane, Briss. vi, *p.* 461, *pl.* 41, *fig.* 1.—*Le petit Canard à grosse tête*, Buff. ix, *p.* 249.—Edw. *pl.* 100.—*Arct. Zool. No.* 487.—Catesby, i, 95.—Lath. *Syn.* iii, *p.* 533.—Peale's *Museum*, *No.* 2730.*

This pretty little species, usually known by the name of the *Butter-box*, or *Butter-ball*, is common to the seashores, rivers and lakes of the United States, in every quarter of the country, during autumn and winter. About the middle of April, or early in May, they retire to the north to breed. They are dexterous divers, and fly with extraordinary velocity. So early as the latter part of February the males are observed to have violent disputes for the females; at this time they are more commonly seen in flocks; but during the preceding part of winter they usually fly in pairs. Their note is a short *quack*. They feed much on shell fish, shrimps, &c. They are sometimes exceedingly fat; though their flesh is inferior to many others for the table. The male exceeds the female in size, and greatly in beauty of plumage.

The *Buffel-headed* Duck, or rather as it has originally been, the *Buffaloe-headed* Duck, from the disproportionate size of its head, is fourteen inches long, and twenty-three inches in extent; the bill is short, and of a light blue or leaden colour; the plumage of the head and half of the neck is thick, long and velvetty, projecting greatly over the lower part of the neck; this plumage on the forehead and nape is rich glossy green changing into a shining purple on the crown and sides of the

* *Le Canard d'hyver*, Briss. vi, *p.* 349; *La sarcelle de la Caroline*, *Id. p.* 461.

neck; from the eyes backward passes a broad band of pure white; iris of the eye dark; back, wings and part of the scapulars black; rest of the scapulars, lateral band along the wing, and whole breast, snowy white; belly, vent, and tail coverts dusky white, tail pointed, and of a hoary colour.

The female is considerably less than the male, and entirely destitute of the tumid plumage of the head; the head, neck and upper parts of the body, and wings, are sooty black, darkest on the crown; side of the head marked with a small oblong spot of white, bill dusky; lower part of the neck ash, tipt with white; belly dull white; vent cinereous; outer edges of six of the secondaries and their incumbent coverts white, except the tips of the latter, which are black; legs and feet a livid blue; tail hoary brown; length of the intestines three feet six inches; stomach filled with small shell fish. This is the Spirit Duck of Pennant, so called from its dexterity in diving (Arct. Zool. No. 487.), likewise the Little Brown Duck of Catesby (Nat. Hist. Car. pl. 98.).

This species is said to come into Hudson's Bay about Severn river in June, and make their nests in trees in the woods near ponds.* The young males during the first year are almost exactly like the females in colour.

* Latham.

SPECIES 24. *ANAS GLACIALIS.*

LONG-TAILED DUCK.

[Plate LXX.—Fig. 1, *Male.*]

Le Canard à longue queue de Terre Neuve, Briss. vi, *p.* 382. 18. —Buff. ix, *p.* 202.—*Pl. Enl.* 1008.—Ewd. *pl.* 280.—*Arct. Zool. No.* 501.—Lath. *Syn.* iii, *p.* 528.—Peale's *Museum*, *No.* 2810.*

This Duck is very generally known along the shores of the Chesapeake Bay by the name of *South Southerly*, from the singularity of its cry, something imitative of the sound of those words, and also, that when very clamorous they are supposed to betoken a southerly wind; on the coast of New Jersey they are usually called *Old Wives*. They are chiefly salt water Ducks, and seldom ramble far from the sea. They inhabit our bays and coasts during the winter only; are rarely found in the marshes, but keep in the channel, diving for small shell fish, which are their principal food. In passing to and from the bays, sometimes in vast flocks, particularly towards evening, their loud and confused noise may be heard in calm weather at the distance of several miles. They fly very swiftly, take short excursions, and are lively restless birds. Their native regions are in the north, where great numbers of them remain during the whole year; part only of the vast family migrating south to

* *Anas Glacialis*, Gmel. *Syst.* i, *p.* 529, *No.* 30; *A. hyemalis*, *Id. No.* 29; *Mergus furcifer*, *Id.* 548, *No.* 7.—*Ind. Orn. p.* 864, *No.* 82, *et var.*; *Mergus furcifer*, *Id. p.* 832, No. 8; *Gen. Syn. p.* 528, No. 73; *Id. p.* 529, *young male called the female*; *Id. p.* 531, *var. A.*; *Forked Merganser*, *Id. sup.* ii, p. 339, No. 5.—*Le Canard à longue queue d'Islande*, Briss. vi, p. 379. *La Sarcelle de Ferroe*, *Id.* p. 466, pl. 40. fig. 2.—Buff. ix, p. 278. *Pl.* 1008, *old male*; 999, *yearling.*—Edwards. *pl.* 280, *old male*, pl. 156, *young male.*—*Br. Zool. No.* 283.—Bewick, ii, p. 327.—*Canard de Million*, Temm. *Man. d'Orn.* p. 860.

avoid the severest rigours of that climate. They are common to the whole northern hemisphere. In the Orkneys they are met with in considerable flocks, from October to April; frequent in Sweden, Lapland, and Russia; are often found about St. Petersburgh, and also in Kamtschatka. Are said to breed at Hudson's Bay, making their nest among the grass near the sea, like the Eider Duck, and about the middle of June lay, from ten to fourteen bluish white eggs, the size of those of a pullet. When the young are hatched the mother carries them to the water in her bill. The nest is lined with the down of her breast, which is accounted equally valuable with that of the Eider Duck, were it to be had in the same quantity.* They are hardy birds, and excellent divers. Are not very common in England, coming there only in very severe winters; and then but in small straggling parties; yet are found on the coast of America as far south at least, as Charleston in Carolina, during the winter. Their flesh is held in no great estimation, having a fishy taste. The down and plumage, particularly on the breast and lower parts of the body, are very abundant, and appear to be of the best quality.

The length of this species is twenty-two inches, extent thirty inches; bill black, crossed near the extremity by a band of orange; tongue downy; iris dark red; cheeks and frontlet dull dusky drab, passing over the eye, and joining a large patch of black on the side of the neck, which ends in dark brown; throat and rest of the neck white; crown tufted, and of a pale cream colour; lower part of the neck, breast, back, and wings black; scapulars and tertials pale bluish white, long and pointed, and falling gracefully over the wings; the white of the lower part of the neck spreads over the back an inch or two, the white of the belly spreads over the sides, and nearly meets at the rump; secondaries chestnut, forming a bar across the wing; primaries, rump, and tail coverts black; the tail consists of fourteen feathers, all remarkably pointed, the two middle ones nearly four

* Latham.

inches longer than the others; these, with the two adjoining ones, are black, the rest white; legs and feet dusky slate.

On dissection, the intestines were found to measure five feet six inches. The windpipe was very curiously formed; besides the labyrinth, which is nearly as large as the end of the thumb, it has an expansion immediately above that, of double its usual diameter, which continues for an inch and a half; this is flattened on the side next the breast, with an oblong window-like vacancy in it, crossed with five narrow bars, and covered with a thin transparent skin, like the panes of a window; another thin skin of the same kind is spread over the external side of the laybrinth, which is partly of a circular form. This singular conformation is, as usual, peculiar to the male, the female having the windpipe of nearly an uniform thickness throughout. She differs also so much in the colours and markings of her plumage as to render a figure of her in the same plate necessary; for a description of which see the following article.

LONG-TAILED DUCK.

[Plate LXX.—Fig 2, *Female.*]

Anas hyemalis, Linn. *Syst.* 202. 29.—Lath. *Syn.* iii, *p.* 529.*
—Peale's *Musum, No.* 2811.

The female is distinguished from the male by wanting the lengthened tertials, and the two long pointed feathers of the tail, and also by her size, and the rest of her plumage, which is as follows: length sixteen inches, extent twenty-eight inches; bill dusky; middle of the crown and spot on the side of the neck blackish; a narrow dusky line runs along the throat for two inches; rest of the head and upper half of the neck white, lower half pale vinaceous bay blended with white; all the rest of the lower parts of the body pure white; back, scapulars, and lesser wing coverts bright ferruginous, centred with black, and interspersed with whitish; shoulders of the wing, and quills black; lower part of the back the same, tinged with brown; tail pale brown ash, inner vanes of all but the two middle feathers white; legs and feet dusky slate. The legs are placed far behind, which circumstance points out the species to be great divers. In some females the upper parts are less ferruginous.

Some writers suppose the singular voice, or call, of this species, to be occasioned by the remarkable construction of its windpipe; but the fact, that the females are uniformly the most noisy, and yet are entirely destitute of the singularities of this conformation, overthrows the probability of this supposition.

* This is a young male and not a female.

SPECIES 25. *ANAS LABRADORA.*

PIED DUCK.

[Plate LXIX.—Fig. 6.]

Arct. Zool. No. 488.—Lath. *Syn.* III, *p.* 497.—Peale's *Museum*, *No.* 2858.*

This is rather a scarce species on our coasts, and is never met with on fresh water lakes or rivers. It is called by some gunners the Sand Shoal Duck, from its habit of frequenting sand bars. Its principal food appears to be shell fish, which it procures by diving. The flesh is dry, and partakes considerably of the nature of its food. It is only seen here during winter; most commonly early in the month of March a few are observed in our market. Of their particular manners, place, or mode of breeding nothing more is known. Latham observes that a pair in the possession of Sir Joseph Banks were brought from Labrador. Having myself had frequent opportunities of examining both sexes of these birds, I find that, like most others, they are subject when young to a progressive change of colour. The full plumaged male is as follows: length twenty inches, extent twenty-nine inches; the base of the bill, and edges of both mandibles for two-thirds of their length, are of a pale orange colour, the rest black, towards the extremity it widens a little in the manner of the Shovellers, the sides there having the singularity of being only a soft, loose, pendulous skin; irides dark hazel; head and half of the neck white, marked along the crown to the hind-head with a stripe of black; the plumage of the cheeks is of a peculiar bristly nature at the points, and

* *Anas Labradora*, Gmel. *Syst.* I, p. 526, No. 97.—*Ind. Orn. p.* 861, *No.* 74.—*Le Canard Jansen*, *Pl. Enl.* 955.—Buff. IX, p. 174.—Peale's *Museum*, No. 2799, *female.*

round the neck passes a collar of black, which spreads over the back, rump, and tail coverts; below this colour the upper part of the breast is white, extending itself over the whole scapulars, wing coverts, and secondaries; the primaries, lower part of the breast, whole belly, and vent are black; tail pointed, and of a blackish hoary colour; the fore part of the legs and ridges of the toes pale whitish ash; hind part the same bespattered with blackish, webs black; the edges of both mandibles are largely pectinated. In young birds, the whole of the white plumage is generally strongly tinged with a yellowish cream colour; in old males these parts are pure white, with the exception sometimes of the bristly pointed plumage of the cheeks, which retains its cream tint the longest, and, with the skinny part of the bill, form two strong peculiarities of this species.

The female measures nineteen inches in length, and twenty-seven in extent; bill exactly as in the male; sides of the front white; head, chin, and neck ashy gray; upper parts of the back and wings brownish slate; secondaries only, white; tertials hoary; the white secondaries form a spot on the wing, bounded by the black primaries, and four hoary tertials edged with black; whole lower parts a dull ash skirted with brownish white, or clay colour; legs and feet as in the male; the bill in both is marked from the nostrils backwards by a singular heart shaped outline.

The windpipe of the male measures ten inches in length, and has four enlargements, *viz.* one immediately below the mouth, and another at the interval of an inch; it then bends largely down to the breast bone, to which it adheres by two strong muscles, and has at that place a third expansion. It then becomes flattened, and before it separates into the lungs, has a fourth enlargement much greater than any of the former, which is bony, and round, puffing out from the left side. The intestines measured six feet; the stomach contained small clams, and some glutinous matter; the liver was remarkably large.

SPECIES 26. *ANAS HISTRIONICA.*

HARLEQUIN DUCK.

[Plate LXXII.—Fig. 4, *Male.*]

Le Canard à Collier de Terre Neuve, Briss. vi, *p.* 362. 14.— Buff. ix, *p.* 250.—*Pl. Enl.* 798.—*Arct. Zool. No.* 490.—Lath. *Syn.* iii, *p.* 484.*

This species is very rare on the coasts of the middle and southern states, though not unfrequently found off those of New England, where it is known by the dignified title of the *Lord*, probably from the elegant crescents and circles of white which ornament its neck and breast. Though an inhabitant of both continents, little else is known of its particular manners than that it swims and dives well; flies swift, and to a great height; and has a whistling note. It is said to frequent the small rivulets inland from Hudson's Bay, where it breeds. The female lays ten white eggs on the grass; the young are prettily speckled. It is found on the eastern continent as far south as lake Baikal, and thence to Kamtschatka, particularly up the river Ochotska; and was also met with at Aoonalashka and Iceland.† At Hudson's Bay it is called the Painted Duck, at Newfoundland and along the coast of New England, the Lord; it is an active vigorous diver, and often seen in deep water, considerably out at sea.

The Harlequin Duck, so called from the singularity of its markings, is seventeen inches in length, and twenty-eight inches in extent; the bill is of a moderate length, of a lead colour

* *Anas Histrionica*, Gmel. *Syst.* i, *p.* 534, *No.* 35; *A. minuta*, *Ib. No.* 36, *female.*—*Ind. Orn. p.* 849, *No.* 45.—*Gen. Syn.* iii, *p.* 484, 485, *female.*—*Dusky and Spotted Duck*, Edwards, *pl.* 99; *Little Brown and White Duck*, *Id. pl.* 157, *female.*—*La Sarcelle de la Baye de Hudson*, Briss. vi, p. 469, No. 41, *female.*—Temm. *Man. d'Orn. p.* 878.

† Latham.

tipt with red, irides dark; upper part of the head black; between the eye and bill a broad space of white, extending over the eye, and ending in reddish; behind the ear a similar spot; neck black, ending below in a circle of white; breast deep slate, shoulders or sides of the breast, marked with a semicircle of white; belly black; sides chestnut; body above black or deep slate, some of the scapulars white; greater wing coverts tipt with the same; legs and feet deep ash; vent and pointed tail black.

The female is described as being less, "the forehead, and between the bill and eye, white, with a spot of the same behind the ear; head, neck, and back, brown, palest on the fore part of the neck; upper part of the breast and rump red brown, lower breast and belly barred pale rufous and white; behind the thighs rufous and brown; scapulars and wing coverts rufous brown; outer greater ones blackish; quills and tail dusky, the last inclining to rufous; legs dusky."*

The few specimens of this Duck which I have met with, were all males; and from the variation in their colours it appears evident that the young birds undergo a considerable change of plumage before they arrive at their full colours. In some the white spot behind the eye was large, extending irregularly half way down the neck; in others confined to a roundish spot.

The flesh of this species is said to be excellent.

* Latham.

GENUS 101. PLOTUS. DARTER.

SPECIES. P. ANHINGA.

DARTER OR SNAKE-BIRD.*

[Plate LXXIV.—Fig. 1, *Male.*]

Plotus anhinga, Linn. *Syst. ed.* 12, *tom.* i, *p.* 218.—Gmel. *Syst.* i, *p.* 580, 1.—*Ind. Orn. p.* 895, 1. *Plotus melanogaster, Id. p.* 896, *var. B, var. C.*—*Anhinga Brasiliensibus Tupinamb.* Marcgrav. *Hist. Nat. Bras. p.* 218.—*L'Anhinga*, Briss. vi, *p.* 476. —Salerne, *p.* 375.—Buff. *Ois.* viii, *p.* 448. *Anhinga noir de Cayenne, Pl. Enl.* 960.—*White-bellied Darter*, Lath. *Gen. Syn.* iii, *p.* 622, 1. *Black-bellied Darter, Id. p.* 624, *var. A. pl.* 106. *Id. p.* 625, *var. B.*—*Colymbus colubrinus, Snake-bird*, Bartram, *p.* 132. 295.—Peale's *Museum*, *No.* 3188, *Male.*

Head, neck, whole body above and below, of a deep shining black, with a green gloss, the plumage extremely soft, and agreeable to the touch; the commencement of the back is ornamented with small oblong ashy white spots, which pass down the shoulders, increasing in size according to the size of the feathers, and running down the scapulars; wings and tail of a shining black, the latter broadly tipped with dirty white; the lesser coverts are glossed with green, and are spotted with ashy white; the last row of the lesser coverts, and the coverts of the secondaries, are chiefly ashy white, which forms a large bar across the wing; the outer web of the large scapulars is crimped; tail rounded, the two under feathers the shortest, the two upper feathers, for the greater part of their length, beautifully crimped on their outer webs, the two next feathers in a slight degree so; bill dusky at the base and above, the upper mandible brownish yellow at the sides, the lower mandible yellow ochre; inside

* Named in the plate Black-bellied Darter.

of the mouth dusky; irides dark crimson; the orbit of the eye, next to the plumage of the head, is of a greenish blue colour, this passes round, in the form of a zigzag band, across the front —the next colour is black, which entirely surrounds the eye; eyelids of a bright azure, running into violet next to the eye ball; lores greenish blue; naked skin in front black; jugular pouch jet black; hind-head subcrested; along the sides of the neck there runs a line of loose unwebbed feathers, of a dingy ash colour, resembling the plumage of callow young, here and there on the upper part of the neck one perceives a feather of the same; on the forehead there is a small knob or protuberance; the neck, near its centre, takes a singular bend, in order to enable the bird to dart forward its bill, with velocity, when it takes its prey; legs and feet of a yellowish clay colour, the toes, and the hind part of the legs, with a dash of dusky; claws greatly falcated; when the wings are closed, they extend to the centre of the tail.

Length from the tip of the bill to the end of the tail two feet ten inches,* breadth three feet ten inches; bill to the angle of the mouth full four inches; tail ten inches and a half, composed of twelve broad and stiff feathers. Weight three pounds and a half.

The serratures of the bill are extremely sharp, so much so, that when one applies tow, or such like substance, to the bird's mouth, it is with difficulty disengaged.

The lower mandible and throat, as in the Divers, are capable of great expansion, to facilitate the swallowing of fish, which constitute the food of this species. The position of these birds, when standing, is like that of the Gannets.

The above description was taken from a fine adult male spe-

* The admeasurement of the specimen, described in the first edition of this work, was made by Wilson himself, from the stuffed bird in Peale's Museum. It differs considerably from that described above; but as our specimen was a very fine one, there is room to conjecture that there was some error in the admeasurement of the former, ours being described immediately after death.

cimen, which was shot by my fellow-traveller, Mr. T. Peale, on the first of March, 1818, in a creek below the Cow Ford, situated on the river St. John, in East Florida. We saw some others in the vicinity, but owing to their extreme vigilance and shyness, we could not procure them.

From the description of the White-bellied Darter of Latham and others, which is unquestionably this species, one would be inclined to conjecture, that the bird figured in our plate, as the female, is the young male. But this point it is not in my power to ascertain. The specimens in Peale's Museum, from which Wilson took his figures, are labelled male and female. All the Darters which I saw, while in Florida, were males.

The Snake-bird is an inhabitant of the Carolinas, Georgia, the Floridas and Louisiana; and is common in Cayenne and Brazil. It seems to have derived its name from the singular form of its head and neck, which, at a distance, might be mistaken for a serpent. In those countries where noxious animals abound, we may readily conceive, that the appearance of this bird, extending its slender neck through the foliage of a tree, would tend to startle the wary traveller, whose imagination had portrayed objects of danger lurking in every thicket. Its habits, too, while in the water, have not a little contributed to its name. It generally swims with its body immerged, especially when apprehensive of danger, its long neck extended above the surface, and vibrating in a peculiar manner. The first individual that I saw in Florida, was sneaking away to avoid me, along the shore of a reedy marsh, which was lined with alligators, and the first impression on my mind was that I beheld a snake; but the recollection of the habits of the bird soon undeceived me. On approaching it, it gradually sank; and my next view of it was at many fathoms distance, its head merely out of the water. To pursue these birds at such times is useless, as they cannot be induced to rise, or even expose their bodies.

Wherever the limbs of a tree project over, and dip into, the water, there the Darters are sure to be found, these situations being convenient resting places for the purpose of sunning and

preening themselves; and, probably, giving them a better opportunity, than when swimming, of observing their finny prey. They crawl from the water upon the limbs, and fix themselves in an upright position, which they maintain in the utmost silence. If there be foliage, or the long moss, they secrete themselves in it in such a manner that they cannot be perceived, unless one be close to them. When approached, they drop into the water with such surprising skill, that one is astonisbed how so large a body can plunge with so little noise, the agitation of the water being, apparently, not greater than that occasioned by the gliding of an eel.

Formerly the Darter was considered by voyagers as an anomalous production, a monster partaking of the nature of the snake and the Duck; and in some ancient charts which I have seen, it is delineated in all the extravagance of fiction.

From Mr. William Bartram we have received the following account of the subject of our history:

"Here is in this river,* and in the waters all over Florida, a very curious and handsome bird, the people call them Snake-birds; I think I have seen paintings of them on the Chinese screens, and other Indian pictures; they seem to be a species of *Colymbus*, but far more beautiful and delicately formed than any other that I have ever seen. They delight to sit in little peaceable communities, on the dry limbs of trees, hanging over the still waters, with their wings and tails expanded, I suppose to cool and air themselves, when at the same time they behold their images in the watery mirror. At such times when we approach them, they drop off the limbs into the water as if dead, and for a minute or two are not to be seen; when on a sudden, at a great distance, their long slender head and neck appear, like a snake rising erect out of the water; and no other part of them is to be seen when swimming, except sometimes the tip end of their tail. In the heat of the day they are seen in great numbers, sailing very high in the air, over lakes and rivers.

* The river St. Juan, East Florida.

"I doubt not but if this bird had been an inhabitant of the Tiber in Ovid's days, it would have furnished him with a subject for some beautiful and entertaining metamorphoses. I believe they feed entirely on fish, for their flesh smells and tastes intolerably strong of it: it is scarcely to be eaten, unless one is constrained by insufferable hunger. They inhabit the waters of Cape Fear river, and, southerly, East and West Florida.*

* Bartram's Travels, p. 132.—MS, in the possession of the author.†

† From Mr. Ord's Supplementary Volume.

PLOTUS ANHINGA.

DARTER OR SNAKE-BIRD.

[Plate LXXIV.—Fig. 2, *Female.*]

Anhinga de Cayenne, Pl. Enl. 959.—Peale's *Museum, No.* 3189, *Female.*

The Female Darter measures three feet five inches in length; and differs in having the neck before of a roan colour or iron gray, the breast the same, but lighter and tinged with pale chestnut; the belly as in the male; where the iron gray joins the black on the belly, there is a narrow band of chestnut; upper head, and back of the neck, dark sooty brown, streaked with blackish; cheeks and chin pale yellow ochre; in every other respect the same as the male, except in having only a few slight tufts of hair along the side of the neck; the tail is twelve inches long to its insertion, generally spread out like a fan, and crimped like the other on the outer vanes of the middle feathers only.

The above is a description of the supposed female Darter, which is preserved in Peale's Museum; Wilson's figure was taken from this specimen. It was contrary to his practice to make his drawings from stuffed birds, but as he had never had an opportunity of beholding this species in a living or recent state, he was compelled, in this instance, to resort to the Museum.

The author having written to Mr. John Abbot, of Georgia, relative to this species, and some others, received from this distinguished naturalist a valuable communication, from which the following extract is made: "Both the Darters I esteem as but one species. I have now by me a drawing of the male, or Black-bellied, only; but have had specimens of both at the same time. I remember that the upper parts of the female were similar to

those of the male, except that the colour and markings were not so pure and distinct; length thirty-six inches, extent forty-six. These birds frequent the ponds, rivers and creeks, during the summer; build in the trees of the swamps, and those of the islands in the ponds; they construct their nests of sticks; eggs of a sky blue colour. I inspected a nest, which was not very large, it contained two eggs and six young ones, the latter varying much in size; they will occupy the same tree for a series of years. They commonly sit on a stump, which rises out of the water, in the mornings of the spring, and spread their wings to the sun, from which circumstance they have obtained the appellation of Sun-birds. They are difficult to be shot when swimming, in consequence of only their heads being above the water."

Never having seen a specimen of the Black-bellied Darter of Senegal and Java, I cannot give an opinion touching its identity with ours.*

* From Mr. Ord's Supplementary Volume.

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